National Park Service
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PROTECTING AMERICA:

COLD WAR DEFENSIVE SITES

A National Historic Landmarks Theme Study

Cover Photo: Army blockhouse with gantry crane in the background at Launch Complex 33, White Sands Missile Range, New Mexico in 1984. This V-2 rocket test facility was designated an NHL in 1985. Courtesy of LOC P&P, HAER NM-1-B-1.

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A NATIONAL HISTORIC LANDMARKS THEME STUDY

Prepared by:
John S. Salmon, Historical Consultant

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Historic Contexts

Foreword

On January 6, 2009, Congressman Rush Holt introduced H.R. 146, the Omnibus Public Land Management Act of 2009, in the House of Representatives. The bill was entitled "An act to designate certain land as components of the National Wilderness Preservation System, to authorize certain programs and activities in the Department of the Interior and the Department of Agriculture, and for other purposes." Cosponsors included Congressmen Earl Blumenauer, John Dingell, Eni Faleomavaega, Maurice Hinchey, James Langevin, James McGovern, Gary Miller, Patrick Murphy, Steven Rothman, and Peter Welch. The House approved the bill on March 3, and the Senate approved it with changes on March 19. The House voted to approve the amended bill on March 25. President Barack Obama signed the bill into law (P.L. 111-11) on March 30, 2009.

Section 7210 of the Act authorized a Cold War sites theme study. The study was first proposed by Representative Joel Hefley (H.R. 107) and Senator Harry Reid (S. 1257) in 2001, but the legislation did not pass then. Section 7210 contained the same language as the 2001 bills: "The Secretary [of the Interior] shall conduct a National Historic Landmark theme study to identify sites and resources in the United States that are significant to the Cold War." The Act directed the Secretary to consult with federal and state historic preservation officers, among others, and to consider the following resources while gathering information and conducting the study:

> (A) The inventory of sites and resources associated with the Cold War compiled by the Secretary of Defense under section 8120(b)(9) of the Department of Defense Appropriations Act, 1991 (Public Law 101-511; 104 Stat. 1906; and
> (B) Historical studies and research of Cold War sites and resources, including—
> (i) Intercontinental ballistic missiles;
> (ii) Flight training centers;
> (iii) Manufacturing facilities;
> (iv) Communications and command centers (such as Cheyenne Mountain, Colorado);
> (v) Defensive radar networks (such as the Distant Early Warning Line);
> (vi) Nuclear weapons test sites (such as the Nevada test site); and
> (vii) Strategic and tactical aircraft

During the course of the study, tribal historic preservation officers were contacted, as well as federal and state historic preservation officers. Communications with the Department of Defense revealed that no single inventory of Cold War sites had been compiled; rather, since 1991 several topical surveys and inventories have been conducted

and prepared. Several of them, including historic contexts, are available on websites and are listed in the Bibliography in this theme study.

A Cold War Advisory Committee (CWAC) of experts outside of the National Park Service was created in 2010 to assist with the preparation of this theme study, providing valuable review and advice. With guidance from NPS historian Robie Lange of the National Landmarks Program, CWAC members contributing to this effort have included Francis Gary Powers, Jr. (Chair), Mark Bradley, Cynthia Kelly, Richard Fried, Christian Ostermann, Tom Vanderbilt, Karen Weitze, Michael Binder, Walter Grunden, Paul Green, and Ron James. Two anonymous peer reviewers also provided crucial assistance in the preparation of this theme study.

The exact starting and ending dates of the Cold War era are subject to debate.[1] For the purposes of this theme study, the Cold War is considered to have begun with the detonation of the first two atomic bombs and Japanese surrender in 1945 at the end of World War II and having ended with the dissolution of the Soviet Union, America's principal adversary, in 1991. Because the Cold War era is so recent, and the universe of potentially related properties is so vast, relatively few such properties have been designated as National Historic Landmarks or listed in the National Register of Historic Places. The majority of properties are fewer than fifty years old, and many have been demolished as sites have been deactivated or have been so altered as to be lacking in sufficient integrity for designation or listing. Although a few surveys have been made and several historic contexts have been written, there is an urgent need for more because the properties are disappearing.

The historic context section of this study is divided into three parts. It is intended to introduce the researcher to the ways in which international affairs and the political and military challenges of the Cold War era influenced the weapons systems and defense programs of the United States. The first part focuses on the origins and evolution of the Cold War from World War II until the death of Josef Stalin in 1953. This section discusses the ideological differences between the two principal adversaries, the dawn of the atomic age, and the weapons systems that each side developed. The second part concentrates on the Cold War at its coldest, as the United States and the Soviet Union appeared to settle into a period of endless provocations and proxy wars and the threat of nuclear annihilation often seemed likely to become a reality. By the end of this period, both sides had come to accept that matters could not be allowed to continue in these patterns, that a new way of dealing with each other had to be found. Détente was the first step. The third part brings the history of the Cold War to its conclusion, from the end of the Vietnam War and the beginnings of a thaw in relations because of presidential diplomacy, the rise of dissent in the Soviet Union (especially in Eastern Europe), the final collapse of the Soviet economic and political structure, and the dissolution of the Soviet Union.

[1] For example, Congress defined service eligibility dates for the Cold War Recognition Certificate with September 2, 1945 (Japan's formal surrender) as the beginning date.

This theme study is an introduction to the Cold War, not a conclusion. Although the conflict touched virtually every aspect of life in the United States and abroad for half a century, the principal focus of this study is on the types of defensive sites and properties listed in Section 7210 of H.R. 146 (hence the title *Protecting America: Cold War Defensive Sites*). Other property types that have been designated as National Historic Landmarks or listed in the National Register of Historic Places are listed under Study Results and in Appendices A and B. Domestic sites related to other major events and themes such as the Marshall Plan, the Bay of Pigs, the Cuban Missile Crisis, the Peace Corps, the Vietnam War, and espionage may also be considered within the context of this study. Additional important and broadly related Cold War themes that are mentioned only briefly in this study include: the home front, the influence of consumerism, the development of nuclear power for civilian uses, the civil defense system, the counterculture, the antiwar movement, the movements for civil rights and other forms of social change, and numerous non-military and non-diplomatic properties, to name but a few. Researchers are not precluded from nominating properties related to such themes, or from making them the subjects of further studies related to the Cold War. Recently, for example, the Nevada Peace Camp just outside the Nevada Test Site was the subject of archaeological study, and the site of the shootings at Kent State University in Ohio has received National Historic Landmark status (*May 14, 1970, Kent State Shootings Site*).

Finally, because this study focuses on the Cold War–era sites and properties that were created to protect America, the story of the Cold War presented in the following pages primarily presents the American view of that conflict. As with every conflict, there are at least two sides to the larger story, as well as to the stories of the many events that occurred around the world during the almost fifty-year life span of the Cold War. Vast numbers of books and articles have been written on these subjects, and more are destined to be written as records of the various governments involved are declassified. The changing interpretations of Cold War history based on such records, as well as on the study of relevant artifacts, demonstrate the importance of preserving them. Readers are referred to the Bibliography as a starting point and are encouraged to explore in greater depth the topics and events lightly touched on here.

Introduction

A soldier stands at attention in front of a Nike missile, May 1955. By Thomas J. O'Halloran. Courtesy of the Library of Congress, Prints and Photographs Division [hereafter LOC P&P], US News & World Report Magazine Photograph Collection, LC-DIG-ppmsca-51664, frame 8.

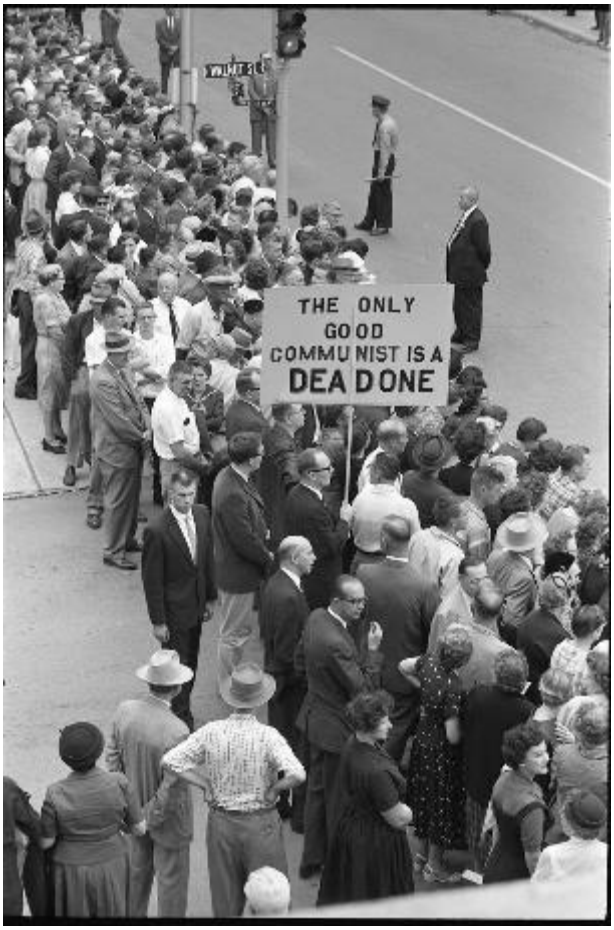
As World War II ended, the world entered what has become known as the Cold War—a term that financier and presidential advisor Bernard Baruch first used in a speech on April 16, 1947 to describe the increasingly chilly relations between the Soviet Union and the United States. In fact, although the two great powers were allied against Germany during World War II, relations between them had never been warm. Each nation suspected that the other intended to expand its influence, if not its territory, at the other's expense, and to interfere in internal as well as in international affairs. The Soviets continued to resent the fact that America supported the Whites over the Reds during the Russian Revolution, when the United States invaded Murmansk, Archangel, and Vladivostok in 1918, engaged Soviet forces in combat, and remained on Russian soil until 1920. They also absorbed the traditional and highly sensitive Russian concerns over issues regarding security (especially of their far-flung borders), year-round access to warm-water ports, and national sovereignty. In America, Soviet communism was immediately seen as a threat to capitalism (the "Red Scare") and sparked the infamous Palmer Raids against suspected revolutionaries in 1919–1920. The raids were just the first of several attempts by ambitious American politicians to whip up anticommunist hysteria during the twentieth century. Mutual suspicion and ideological opposition, then, typified the relations between the Americans and the Soviets from the beginning until the end of the Cold War. The alliance of World War II was largely a marriage of convenience to oppose Hitler's fascism, which both sides agreed was the larger threat at the moment. Once the hot war ended, the United States and the Soviet Union resumed their previously distant relationship, but with new and dangerous elements to consider.

Two facts dominated the Cold War Era, which is defined for the purposes of this theme study as the period between 1945 (the dawn of the Atomic Age) and 1991 (the dissolution of the Soviet Union): the United States and the West vied against the Soviet Union and its satellites in a global political and military struggle for supremacy, and the threat—sometimes seemingly the promise—of nuclear obliteration hung over all the Earth like the Sword of Damocles. Day in and day out for four and a half decades, the two sides maneuvered. Puppet states, proxy wars, espionage and counterespionage, overt and covert operations, subtle intimidation and raw violence, threats and bluster, public pronouncements and secret treaties, alliances and betrayals, paranoia and credulity, lies mixed with truth, smoke and mirrors—each side toyed with reality and illusion to gain advantage. To many people, the greatest delusion of all was the belief that mere mortals could somehow control the means of annihilation and keep the finger hovering over the button from ever pushing it. The world watched with white knuckles as time after time, each side slipped and slid closer to the fatal moment in a clumsy danse macabre. Would this be the day that one or both made a final miscalculation? In America, television viewers often caught their breaths when screens went black in the middle of an evening sitcom, the word BULLETIN dropped into view, and a grim voice intoned, "We interrupt this program for a special announcement." Were the missiles on their way? To most Americans, the Cold War was an era of constant low-grade fear and worry punctuated by a few unforgettable moments of great anxiety.

Office of Civil and Defense Mobilization exhibit at local defense fair, ca. 1960. Federal Emergency Management Agency photograph. Courtesy of US National Archives and Records Administration [hereafter NARA], Record Group 311.

Outside the relatively safe haven of the United States, with its protective shield of missiles and long-range bombers and Distant Early Warning stations, however, many people experienced other grim realities that Americans could only imagine. The grinding oppression of Soviet life, the secret police, the disappearances, the Gulag, the wars of "revolution" and "liberation," the episodes of wholesale slaughter, the trading of one despot for another, crushed the spirits or took the lives of millions. People in the Third World often experienced the bloody consequences of decolonization, competition for power, and local and regional rivalries. For most of the Cold War, it appeared to Americans that the advantage lay with the Soviets, whose leaders apparently plotted and schemed behind the Iron Curtain, safe from observation, and who supposedly orchestrated the International Communist Conspiracy, directed events at the minutest level, and always seemed a step ahead of the West. To them most Americans ascribed almost supernatural strength and confidence, the result of their steadfast faith in the unifying theory of communism and their unshakable conviction that history was on their side. The West, in contrast, seemed a mixture of conflicting interpretations of "democracy," governments that operated in a chaotic spectrum ranging from constitutional monarchies to socialist states, and national leaders who squabbled openly with their peers as often as they cooperated with each other. The West, with its vaunted concern for the individual, its openness, and its reluctance to resort to violence, often

appeared less determined than the Soviets, with their alleged esteem for the group, their blatant lies and bluster, and their casual brutality. When Nikita Khrushchev appeared to threaten, "We will bury you"—although he was merely employing a Russian colloquialism that meant "We will outlast you"—the eruption of Western outrage masked the secret fear that he might be right.



A crowd gathered to see Nikita Khrushchev in Des Moines, Iowa, September 23, 1959. By Thomas J. O'Halloran. Courtesy of LOC P&P, US News & World Report Magazine Photograph Collection, LC-DIG-ds-07440, frame 13.

And yet, as we know now, so much of what appeared as Soviet strength was a sham—a flimsy facade rotting from the inside out. The apparent strengths of the Soviet system—centralized control and a unified political and economic philosophy—were in fact its weaknesses. The end of the Cold War came swiftly in a cascade of unforgettable images as the Soviet edifice toppled. Television viewers around the world watched cheering East Berliners attack the despised Wall with sledgehammers and bare hands, while East German guards merely looked on instead of machine-gunning them to death. Russian president Boris Yeltsin stood atop a tank denouncing a coup attempt against Soviet leader Mikhail Gorbachev. When the conspirators, half drunk, held a press conference to announce that they had taken over because Gorbachev was "indisposed," the crowd laughed and the plotters' imminent failure was obvious in their stunned expressions. Another shocking image: Romanian tyrant Nicolae Ceausescu was booed and hissed off

the podium by a throng of supposed supporters, his eyes wide in disbelief before the state-run television suddenly stopped transmitting. And in Wenceslas Square in Prague, a televised image quite the opposite: Alexander Dubček walked onto a balcony to thunderous cheers, the personification of the triumph of hope over despair, seemingly risen from the dead after Soviet tanks ground his Prague Spring into the dirt so many years earlier. The prelude to these scenes occurred, perhaps, in June 1979, when Pope John Paul II made his first visit home to Poland after his election and told the millions who flocked to see him despite Soviet disapproval: "Be not afraid." When the people ceased being afraid, the end came quickly.

Such scenes were unimaginable in 1945, of course, as World War II ground to an end and the Cold War began. Of the three great Allied commanders, only one—Soviet leader Josef Stalin—remained alive or in office when the Potsdam Conference began in July 1945. President Franklin D. Roosevelt had died in April, and his successor, President Harry S Truman, probably knew less when he assumed office about America's atomic bomb than Stalin did. Prime Minister Winston S. Churchill was voted out of office in the midst of the conference, replaced by Clement Atlee. It was Stalin who was the best prepared of the three by experience and cunning to influence the postwar world. Because he considered the expansion of that influence as essential to the survival of the Soviet Union and the communist system in the face of perceived Western hostility, he was prepared to act. Atlee and Truman, however, were primarily concerned with rebuilding Europe and avoiding massive unemployment as their armies demobilized. Stalin had the initiative.

The United States, however, had "The Bomb," and that fact dominated everything else. Diplomatic pushing and shoving are common among the victors after a war as they seek to satisfy their constituencies' desire for revenge, reconstruction, and future security. The jousting is carried on with some recognition of semi-equality: all have suffered from the effects of war, all have challenges facing them on the home front, and all want to attain some semblance of peace and normality. The atomic bomb, however, made the United States "more equal" than the others, a fact that Stalin could not abide. First, he had to get the bomb for the Soviet Union, and then he had to ensure that it was at least as threatening to America as its bomb was to his country, to restore the balance that the bomb had upset. Thus, as World War II ended, the Cold War era began.

The next four and a half decades comprised a period during which each side suspected that the other was preparing for preemptive nuclear attack, or at least was considering the possibility. Each new weapon and delivery system, each new defensive radar network, and every advance in technology was developed in reaction to or in anticipation of a similar program on the other side. Uncertainty bred fear and paranoia among leaders as well as among ordinary people. Each side assumed that ulterior motives were behind any action by the other side, and that nothing was as straightforward as it appeared. Propaganda and slogans frequently took the place of meaningful dialogue. To the United States, the Soviets appeared philosophically unified and willing and able to crush even the slightest dissent with sledgehammer brutality. Surely such a system had as its ultimate aim world domination and our imminent destruction? And even more fearsome than the outside threat was the enemy within: spies, real and imagined, who fed the

anticommunist hysteria and witch-hunts by Senator Joseph McCarthy, the House Un-American Activities Committee (HUAC), and other legislative bodies.

On their side, the Soviets feared that America and its allies, while eschewing overt violence, intended to surround, "contain," and finally smother them under the guise of "spreading democracy" around the globe. Stalin, then, when accused of seeking world domination, could suggest with some justification that the Americans sought the same goal for themselves. Stalin had a counterstrategy: dominate as much of Europe as possible, wait for the inevitable war to erupt among the capitalist nations (as communist theory predicted), watch as one European country after another adopted the communist ideology, and then pick up the pieces. The story of the Cold War from the Soviet side is in part about the slow failure of this strategy, which the Soviet leaders clung to for far too long in the face of reality. The war among the capitalists never happened; given the choice, one European nation after another chose capitalism (in some form) over communism; and as the decades rolled by, citizens of communist countries made the same choice, leaving Soviet authorities with little but tanks and bullets to enforce their will, even among their satellites. In the end, the West clearly had won the war of ideas.

A Titan II missile is launched at Vandenberg Air Force Base, California, August 7, 1975. Department of Defense photograph. Courtesy of NARA, Record Group 330.

The West also won the military side of the Cold War—the arms race—even though the Soviet Union eventually reached parity in numbers of missiles. Despite early American

fears of missile and bomber "gaps" (more imagined than real), and the shocking Soviet launches of the first satellite and the first human into orbit, the vibrant American economy could support weapons and missile development as well as produce an abundance of consumer goods. The centrally controlled Soviet economy could not do both, much to the chagrin of its leaders as its shortcomings became obvious to Soviet consumers. The Soviet leaders abandoned the "space race" early, and American innovations in technology as well as in weapons and rocketry eventually gave the United States such a lead in the arms race that although the Soviets reached missile parity, they could not catch up on technological matters. President Ronald Reagan's Strategic Defense Initiative, the "Star Wars" defense system, derided by many in America as unrealistic, was realistic enough to panic the Soviet leadership. Reagan insisted that SDI would make nuclear weapons obsolete, and if they were obsolete, then why not destroy them all? Shortly thereafter, Mikhail Gorbachev, the new Soviet leader who also favored a world free of nuclear weapons, took Reagan at his word and the two men contained the arms race essentially on American terms.

The final act of the Cold War came with the dissolution of the Soviet Union, as one satellite state after another declared its independence and replaced or reformed its government. Most of these changes took place without bloodshed—Romania being an exception—and the Soviet leadership accepted the inevitable. There was no repeat of the bloody crushing of the Hungarian rebellion of 1956, or the suppression of the Prague Spring of 1968. Gorbachev did not have the stomach for raw force. Finally, on Christmas Day 1991, acknowledging reality, Gorbachev signed a decree officially dissolving the Soviet Union. The Cold War was over.

The United States as well as the Soviet Union created a vast infrastructure to support a complex of offensive and defensive weapons systems during the Cold War. This infrastructure included facilities and sites for developing, testing, manufacturing, and storing the weapons; expanded military installations for use as staging and training centers; a network of defensive radar and communications stations; and a host of command and control centers. Not all of these sites survived the Cold War, being scrapped or greatly altered as strategies and weapons systems changed. Those that did survive are now mostly obsolete, although some have been modified for other uses. This theme study is intended to help with the identification and evaluation of Cold War properties.

Part One: The Cold War to the Death of Stalin

A US nuclear test at Bikini Atoll during Operation Crossroads, July 1946. US Army Air Service photograph. Courtesy of LOC P&P, Ira Eaker Papers, LC-DIG-ds-02947.

In May 1945, the European phase of World War II came to an end. On May 7, German military leaders surrendered unconditionally to the Allies at Rheims, France. Because the Western nations were, in the opinion of the Soviets, overrepresented at this first surrender ceremony, a second one was held in Berlin, Germany, the next day. Subsequently, the attention of the Allies turned to the Pacific, where training was underway for the invasion of Japan.[2]

The Americans, however, had a supposedly secret weapon, the atomic bomb. Working in collaboration with the British and benefitting from scientists who had fled anti-Semitism in Europe, they had succeeded where the Germans had failed. The Soviets, engaged in a fight to the death with the Nazis in the heart of Russia, had not had the wherewithal to fully concentrate on building their own bomb. On July 16, one day before the opening of the Potsdam Conference, the United States successfully exploded an atomic device in a test code-named Trinity at the White Sands Proving Ground near Alamogordo, New Mexico. Josef Stalin, who had a few spies embedded in the principal research and development site at Los Alamos, New Mexico, was less than surprised when President Harry S. Truman informed him of the test, since he had learned of the Manhattan Project long before Truman did. Stalin was genuinely surprised a short time later, however, when he learned that the bomb had been dropped on Hiroshima, Japan, on August 6. The Soviet Union quickly declared war on Japan on August 8, and a second bomb was dropped on August 9 at Nagasaki. The Japanese surrendered on August 14, ending World War II and averting the vast loss of life on both sides that the planned invasion of Japan likely would have entailed.[3]

The end of the war left many nations in a shamble, with economies demolished, infrastructures destroyed, industries ruined, cities and towns in rubble, political systems in chaos, and populations on the verge of starvation. Although America emerged relatively unscathed by comparison, and as the strongest country on the planet, Truman was not alone in his uncertainty about the nation's future. Would the economic recovery—the end of the Great Depression—secured by massive wartime spending continue? Would unemployment rise as the armed forces demobilized? In addition, the Soviet intentions at first were unclear. Would the United States be able to maintain its dominance over what was soon perceived as a politically if not militarily aggressive Soviet Union, which soon asserted its interest in influencing Eastern Europe and getting the Allies out of Berlin? The devastation in much of Europe cast doubt on the ability of capitalism to drive recovery and increased the popularity of communist parties. Everywhere Truman looked, he encountered unanswerable questions. At a time when America might have exuded confidence about the future, instead it felt insecure. To safeguard the country's future, Truman believed that he could not allow any potentially hostile power to gain control of the resources of other nations through military,

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[2] John Lewis Gaddis, *The Cold War: A New History* (New York, NY: The Penguin Press, 2005), 5–8.

[3] Charles R. Loeber, *Building the Bombs: A History of the Nuclear Weapons Complex*, 2nd ed. (Albuquerque, NM: Sandia National Laboratories, 2005), 63–76. The Trinity Site was designated an NHL in 1965. For Stalin's reactions to the development and first use of the atomic bomb, *see* David Holloway, *Stalin and the Bomb: The Soviet Union and Atomic Energy, 1939–1956* (New Haven, CT: Yale University Press, 1994), 116–133.

economic, or political means. Likewise, to avert future conflicts, all nations needed to be able to acquire what they needed on open markets. It would fall to America to guarantee that access while also looking out for its own interests, Truman realized. At least, he could reflect, it had the atomic bomb to aid in that undertaking.[4]

Stalin, on the other hand, feared that the United States would employ nuclear blackmail against the Soviet Union, probably because he would have used the same strategy had the Soviets developed the bomb first. In addition, Stalin realized that the Soviet Union was at an especially vulnerable moment in its history, since the war had devastated its armed forces, civilian population, infrastructure, and economy. Although Truman hoped that America's possession of the bomb would pressure Stalin, the Soviet dictator instead initiated a policy of "tenacity and steadfastness" to avoid appearing weak while rebuilding, and he redoubled his efforts to acquire his own bombs to—as he saw it—restore the balance of power. Soviet scientists, assisted by spies in America and urged on by Stalin, worked frantically to catch up. On August 29, 1949, the Soviets exploded their first atomic bomb in a desert in Kazakhstan. Stalin made no official announcement, but the United States discovered evidence of the event on September 3. Now, Stalin believed, the balance of power had been restored. The Americans did not see it that way.[5]

To the United States and its allies, the communist world appeared unified, militant, and determined to expand its sphere of influence. In contrast, to the diverse Western nations, preoccupied with recovering from the war and expanding their consumer-driven economies, America's sole possession of the bomb seemed largely a security blanket rather than an overt threat against the powerful Soviet Union and its ambitions. To them, the bomb in Stalin's hands upset the balance and required a response. The arms race began in earnest.[6]

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[4] Melvyn P. Leffler, "The emergence of an American grand strategy, 1945–1952," in Melvyn P. Leffler and Odd Arne Westad, eds., *The Cambridge History of the Cold War* (Cambridge, UK: Cambridge University Press, 2010), 1:67–68, 74–75.

[5] David Holloway, "Nuclear weapons and the escalation of the Cold War, 1945–1962," in ibid, 379–380; Gaddis, *Cold War*, 34–36; Vladislav M. Zubok, *A Failed Empire: The Soviet Union in the Cold War from Stalin to Gorbachev* (Chapel Hill: University of North Carolina Press, 2007), 1–2 (estimates of human losses vary, but Zubok suggests almost 27,000,000 Soviet dead, including 8,668,400 military, vs. about 293,000 Americans, almost all military).

[6] Gaddis, *Cold War*, 7–8.

"Mr. Atom 1949 Island Footprint" – published September 24, 1949 in the Washington Post. An editorial cartoon commenting on America's sudden realization they are no longer the only holders of an atomic bomb.

In reality, of course, the Soviet Union and international communism were not nearly as monolithic as the Americans feared. In Yugoslavia, Josef Tito ran the country as a Soviet ally, not as a puppet. In China, Mao Zedong cooperated with Moscow but agreed to focus on Asia while the Soviets concentrated their influence on Europe. In North Korea, Kim Il-sung promoted a cult of personality that rivaled Stalin's and Mao's. In North Vietnam, Ho Chi Minh fought his long war against the French with Soviet support but with his own objectives, which included little subservience. These nuances were mostly lost on Americans, especially when spies were discovered giving nuclear secrets to the Soviets and anticommunist hysteria reached a fever pitch early in the 1950s.[7]

Although the Soviet and Western "spheres of influence" had existed before World War II, the boundaries were redrawn at the end of the conflict. In Europe, Stalin secured a foothold that he had lacked before. Germany was divided, while Poland, Czechoslovakia, Hungary, and Yugoslavia were Soviet satellites, and communist parties thrived in several Western European countries. In Asia, mainland China became communist as Chiang Kai-shek fled to the island of Taiwan. The United States supported Korea south of the 38th

[7] Gaddis, *Cold War*, 33–37, 39–40, 43–44.

parallel and the Soviets supported the north. In addition to the new lines mandated at the end of the war, or the alignments created by occupation or revolution, some nations chose to align themselves either with the United States or with the Soviet Union. Most of Western Europe sided with America while Egypt and India, for example, took the path of "non-alignment."[8]

In 1946 and 1947, Stalin, Churchill, and Truman gave important speeches that delineated the lines. Stalin, in Moscow on February 9, 1946, reiterated communist ideology: that capitalism distributed wealth unevenly; that the capitalist countries were destined to fight a war among themselves; and that world peace would come with the triumph of communism. Churchill gave his speech the same year in Fulton, Missouri, on March 5, and famously declared that "an iron curtain has descended across the Continent" and that the Western democracies must stand united against Soviet expansion. A year later, on March 12, 1947, Truman asked Congress for aid to Greece and Turkey to help those nations combat the spread of communism, thereby creating the Truman Doctrine of opposing Soviet expansion.[9]

Truman earlier had seemingly offered the Soviets carrots as well as sticks. On June 14, 1946, the United States had proposed to the United Nations the creation of an International Atomic Energy Authority (the Baruch Plan) to control the bomb and other nuclear activities potentially lethal to human survival. Stalin vetoed the idea, largely because it would have ensured the American monopoly on atomic power. Then in June 1947, Secretary of State George C. Marshall announced the European Recovery Program (Marshall Plan) for the reconstruction of the continent. Eastern Europe was invited to participate, but Stalin closed that door emphatically when the Czechs expressed interest. This was a tactical error, since Congress was more likely to reject the plan if the Soviets participated. Stalin likewise had earlier refused to join the International Monetary Fund and the World Bank, which were created to strengthen capitalism. He had accepted membership in the United Nations primarily because the Soviet Union would have a veto in the Security Council, which he employed against the Baruch Plan.[10]

[8] Gaddis, *Cold War*, 20–22, 37, 124–128.

[9] Gaddis, *Cold War*, 94–95; Westminster College Gymnasium, the site of Churchill's "Iron Curtain" speech, was designated an NHL in 1968.

[10] Gaddis, *Cold War*, 30–32, 54–56; Loeber, *Building the Bombs*, 81; Holloway, "Nuclear weapons," in Leffler and Westad, *Cambridge History*, 1:378; on the subject of the Baruch Plan and Stalin's reaction, *see* McGeorge Bundy, *Danger and Survival: Choices about the Bomb in the First Fifty Years* (New York: Random House, 1988), 158–184.

Children watch a C-54 Skymaster fly over Berlin, ca. 1948-1949. Henry Ries/The New York Times/Redux.

The United States and Western Europe implemented the Marshall Plan and linked it to the democratization of West Germany in the hope of eliminating any possibility of a return to dictatorship there. Likewise, America imposed its will on Japan, creating a democracy in that nation under the terms of the occupation and the leadership of General Douglas MacArthur. In both cases, the United States gave the defeated countries massive aid in reconstruction to ensure economic growth, employment, and future prosperity, as well as in response to the threat that communism posed. The Soviets challenged the West with blockades of West Berlin in April and June 1948 but did not impede airlifts to the city; the blockade that began in June ended the next year, on May 12. Residents of East Germany left for the West by the thousands, an exodus that continued and increased throughout the next dozen years.[11]

During the years following the end of World War II, Truman and his advisors groped their way toward a policy regarding the Soviet Union. It became known as "containment," a term that diplomat George Kennan first expressed in his famous "long telegram" from the United States embassy in Moscow in February 1946. In its simplest form, containment meant confining Soviet expansion to Eastern Europe and encouraging other nations to support the strategy. By the time Truman left office in 1953, however, he had moved beyond mere containment to a policy of winning against Soviet expansion, using diplomacy, military and economic assistance, and the threat of the bomb to reach that objective. In his farewell address, Truman said, "I suppose that history will

[11] Gaddis, *Cold War*, 33–34, 101–102, 113.

remember my term in office as the years when the 'cold war' began to overshadow our lives. . . . But . . . it will also say that in those 8 years we have set the course that we can win it."[12]

The Cold War did indeed cast a shadow over the lives of Americans and manifested its influence in several ways. The rise of virulent anticommunism, the occasional conviction of actual communist spies such as Julius and Ethel Rosenberg, and the fear that communists would infiltrate government and the media culminated in the witch-hunts of the House Un-American Activities Committee (HUAC) and United States Senator Joseph McCarthy. "McCarthyism," however, became institutionalized to some extent, beyond the antics of McCarthy himself, for example in the Federal Bureau of Investigation under Director J. Edgar Hoover, who was obsessed with ferreting out communists both real and imagined. The hunt for Soviet agents became a theme in popular entertainment, as did the effects—also real as well as imagined—of exposure to atomic radiation, which generated motion pictures about giant irradiated monsters rampaging about the planet. Fear of the bomb, as with fear of communist spies, was part of the background noise of life in the Cold War for most Americans. However few families constructed private bomb shelters, for example, and aside from occasional "duck and cover" drills, the threat of atomic war only came into focus periodically when crises erupted.[13]

With regard to nuclear weapons, both Truman and his successor, President Dwight D. Eisenhower, confirmed the policy of presidential control. Truman, having used the bomb twice to end the war in the Pacific and to intimidate the Soviets, refused to define the conditions under which it might be used again, frustrating his policy-makers. Eisenhower at first encouraged the development of tactical (battlefield) nuclear weapons but then slowly backed away, adopting the view that once employed, such weapons would inevitably lead to escalation and worldwide devastation. Tactical nuclear weapons, such as nuclear artillery shells, were nonetheless deployed in Europe beginning in 1953.[14]

The fear of the consequences of using nuclear weapons (a fear that Stalin shared but kept to himself) of course did not impede the race on both sides to develop and improve not only more powerful atomic bombs but also better defense and delivery systems, including aircraft and missiles. The production of nuclear and nonnuclear bomb components was spread over more than a dozen facilities in the late 1940s and early 1950s, including Los Alamos, Oak Ridge, Sandia, Hanford, Rocky Flats, and several others.[15]

Research on more-powerful bombs continued, especially on the so-called hydrogen or thermonuclear bomb. The atomic bomb dropped on Hiroshima, Little Boy, was a relatively simple enriched-uranium bomb. The Nagasaki bomb, Fat Man, was a very

[12] Leffler, "American grand strategy," in Leffler and Westad, *Cambridge History*, 1:76–89.

[13] Laura McEnany, "Cold War mobilization and domestic politics: the United States," in Leffler and Westad, *Cambridge History*, 1:420–441.

[14] Gaddis, *Cold War*, 54–56, 66–68; Loeber, *Building the Bombs*, 90–92; Holloway, "Nuclear weapons," in Leffler and Westad, *Cambridge History*, 1:376.

[15] Loeber, *Building the Bombs*, 81–89, 98–101. A small portion of Los Alamos received NHL designation in 1965 for its World War II–era association with the Manhattan Project, rather than for subsequent Cold War–related activities there.

complicated plutonium weapon. Both bombs were exploded through a fission chain reaction. The potentially far more powerful hydrogen bomb depended on fusion, which is the joining of two light nuclei to form a single, heavier nucleus—a process that thereby releases an enormous amount of energy in its explosion. On May 9, 1951, the United States tested the world's first thermonuclear bomb in the Marshall Islands. A second thermonuclear bomb was tested there on October 31, 1952. Because of the logistical complexity of conducting tests in the Pacific, however, most nuclear weapons were tested at the Nevada Test Site; the first such test occurred there on January 27, 1951. Also, because of the potential risks to civilians and cities should an aircraft with fully assembled bombs crash in the United States, top-secret teams of "weaponeers" were trained at Sandia Base (Kirtland Air Force Base), outside Albuquerque, New Mexico, to fly with the bombs and complete their assembly en route to the target.[16]

At the end of World War II, both the West and the Soviets depended on aircraft for accurate bombing, because rocket development was in its infancy. America's B-29 bomber was the most advanced long-range model of the time. The Soviets manufactured a near-replica, the Tu-4. As with the bombs themselves, research and development continued on the construction and testing of ever-more powerful, longer-range bombers. More important, the research and development of long-range, accurate missiles began, under the leadership of both American scientists and engineers and former German adversaries such as Werner von Braun. In anticipation of the threat from Soviet long-range bombers, American scientists also began to develop advanced radar technologies to produce an early warning system. Significantly, the United States looked for ways to use nuclear technology for military purposes other than for weapons; on June 14, 1952, Truman laid the keel of USS *Nautilus*, the first atomic-powered submarine.[17]

[16] Loeber, *Building the Bombs*, 113–116; personal communications, Toni S. Turner to author concerning "weaponeers" program, in e-mails (Aug. 10, 22, 23, 24, Nov. 11, 2010, and Jan. 24, 2011) and telephone conversation between author and the late Marion R. Turner, Jr., Lt. Col. USAF (Ret.), one of the weaponeers, on the same subject, Aug. 23, 2010.

[17] BDM Corporation, *History of Strategic Air and Ballistic Missile Defense, 1945–1972*, 2 vols. (Washington, DC: Center of Military History, United States Army, 2005), 1:9–10; Loeber, *Building the Bombs*, 106–109. USS *Nautilus* was designated an NHL in 1982.

USS Nautilus on initial sea trials, January 20, 1955. US Navy photograph. Courtesy of LOC P&P, LC-USZ62-103120.

In the immediate postwar years, the United States reorganized its armed services and the command structure to coordinate the national defense and the control and deployment of the new weapons system. On March 21, 1946, the Strategic Air Command, the Tactical Air Command, and the Air Defense Command were created within the Army Air Forces. The Atomic Energy Act, which Truman signed on August 1, 1946, created the Atomic Energy Commission (AEC) and transferred the responsibility for nuclear weapons design and development from military to civilian control. On July 26, 1947, Truman signed the National Security Act, which created the Department of Defense (as it was named in 1949) and the new and separate departments of the Navy, the Army, and the Air Force, as well as the National Security Council (NSC), the Central Intelligence Agency (CIA), and the Joint Chiefs of Staff. Numerous reorganizations followed over the next dozen years as interservice rivalries erupted in competition for the advance weapons systems.[18]

On June 25, 1950, America's new military organization received its first shooting-war test when Kim Il-sung's North Korean troops crossed the 38th parallel in a surprise invasion of South Korea. The anticommunist Republic of South Korea had been founded

[18] Loeber, *Building the Bombs*, 79–80, 102–103; BDM, *Air and Ballistic Missile Defense*, 12, 47, 125–126.

on August 15, 1948, and the Soviets created the Korean People's Democratic Republic in North Korea a few weeks later, on September 9. Each side sought reunification at the expense of the other, and South Korean Syngman Rhee had threatened to march north. The United States, like the Soviet Union, had withdrawn its postwar occupation troops, but China's Chairman Mao (as well as Stalin) was encouraging Kim to act. When he did, Truman led a United Nations coalition in defense of South Korea, under command of General Douglas MacArthur. The general executed a brilliant flank attack, landing forces at Inchon to cut off the North Korean army, and then he marched north. As he approached the Yalu River—the border with China—the Chinese army counterattacked and soon had his army in retreat. When the Chinese attack first occurred, Truman seemed to suggest in a press conference that nuclear weapons might be used in defense, but he quickly retracted his words. The war settled into the conventional mode (attack and counterattack with conventional weapons) and dragged on for two more years. It was the first proxy war, in which a Soviet satellite lured a Western nation into armed conflict. It would not be the last.[19]

[19] Gaddis, *Cold War*, 40–46.

Part Two: From Deep Freeze to Détente

Four Nike Hercules missiles arrayed at SF-88, Ft. Barry, San Francisco, California, ca. 1960. US Army photograph. Courtesy of Golden Gate NRA, Park Archives, PAM Prints Collection.

On January 20, 1953, Dwight D. Eisenhower was inaugurated President of the United States. Less than two months later, on March 5, Josef Stalin died in Moscow. One of his temporary successors, Lavrentii Beria, was the notoriously murderous chief of Stalin's secret police. That the accession of such a man followed the death of an absolute dictator was anything but reassuring to the West, particularly in the midst of the Korean War. Nikita Khrushchev quickly engineered Beria's deposition and replaced him with himself. As if to underscore the elevated risk, on March 15 Soviet MIG-15 fighter jets fired on what the Americans called a "weather plane" (in reality a B-50 Superfortress reconnaissance plane) off the Kamchatka Peninsula in far eastern Russia. Tensions eased slightly, however, when on July 27 an armistice was signed that ended the fighting in Korea and created a demilitarized zone (DMZ) at the 38th parallel, thereby largely restoring the balance that existed before the war.[20]

Almost immediately, however, the nuclear equation had to be recalculated (as far as America was concerned) when the Soviet Union exploded its first thermonuclear bomb on August 12, 1953, a few weeks after the Korean armistice. Both sides had been apprehensive about detonating hydrogen bombs because of concern among some scientists that the explosive power might be uncontrollable. Their fears seemed partially confirmed on March 1, 1954, when a U.S. Navy test of a deliverable thermonuclear bomb was held at Bikini Atoll in the Marshall Islands. An explosive yield of five megatons was predicted; the actual yield was almost fifteen megatons, a thousand times as large as the bomb that destroyed Hiroshima. The blast spread fallout for hundreds of miles downwind—enough to kill a Japanese fisherman—and radiation detectors were set off around the world. If one hydrogen bomb could produce such a result, what would a thousand do? Winston Churchill went public with his fear that worldwide annihilation was a distinct possibility; Eisenhower echoed it; and the Soviet leaders voiced the same fear.[21]

The end of the Korean War afforded only a brief release from international tensions. During the 1950s, nationalist and "national liberation" movements arose in many countries, especially those in the Middle East, Africa, and Asia that formerly had either been colonies of European countries or had been dominated by them. In some cases, communists led nationalist insurgencies, as in Vietnam, while in other instances nations such as Egypt chose to align themselves with the Soviet Union without installing a communist government. The Eisenhower administration mistakenly suspected that most if not all nationalist movements were communist-inspired. The administration did not develop an effective way of harnessing nationalist energy to the Western cause and instead relied on propaganda campaigns, counterinsurgency efforts, and propping up pro-Western regimes to counter Soviet military and economic assistance to Third World nations. The Soviet Union, in contrast, had a policy of aiding the "national liberation" movements against colonialist powers. It began in March 1948 if not earlier, as Stalin then instructed the Politburo to "energetically support the revolutionary struggles of the

[20] Gaddis, *Cold War*, 59–60, 104–105.

[21] Gaddis, *Cold War*, 62, 64; Loeber, *Building the Bombs*, 113–116; Holloway, "Nuclear weapons," in Leffler and Westad, *Cambridge History*, 1:383.

oppressed peoples." Stalin, then, had recognized and seized opportunities in Asia and Africa that the United States did not.[22]

Proxy wars and wars of liberation were alternatives to all-out war between the Soviets and the West. Eisenhower's advisors, while agreeing that an all-out nuclear war would doom mankind, tried to convince him to plan for limited nuclear warfare, an approach that the president at first seemed to embrace. Soon, however, he changed his mind and insisted that the nation plan only for an unlimited nuclear war. He shared Truman's assessment that the restricted use of tactical nuclear weapons on a conventional battlefield would quickly escalate. And if the Soviets launched a surprise attack against the United States, Eisenhower reasoned, they would likely use every weapon at their disposal. America would fight back in similar fashion ("massive retaliation"), and the end of civilization would be the result. If that was true, then the only hope of avoiding it was to presume unlimited warfare and inflict incomprehensible damage on each side, regardless of who started it. In such a war there could be no victor, only mutual annihilation. Not everyone in the American nuclear community agreed with this approach. Albert Wohlstetter, for instance, argued in the January 1959 issue of *Foreign Affairs*, in "The Delicate Balance of Terror," that differing levels of deterrence could be achieved by presenting the would-be attacker with alternative levels of risk depending on the mode of attack, the efficacy of early warning and defensive measures, and the distinct likelihood of a second-strike capability among other factors. This assumption produced a stalemate, unstable and ever-shifting, between the two great powers as they constantly developed new weapons to counter the other's supposed advantages. The new strategy on both sides was nuclear deterrence, and the Cold War evolved into a war of nerves.[23]

The research and development of bombers and missile systems to deliver guaranteed obliteration, as well as aircraft and missiles to defend against it, continued apace in both the Soviet Union and the United States. Because the primary and most sophisticated bomb-delivery system in existence at the end of World War II was the long-range bomber, each side sought to construct bigger, faster aircraft capable of delivering more and bigger bombs. By the mid-1950s, following a succession of more advanced bombers, the B-52 had replaced the workhorse B-29. The Soviets had their own advanced bombers, the Bear and the Bison, and when American planners overestimated their numbers, the fear of a "bomber gap" grew in the United States. Besides strategic bombers, both sides developed and manufactured ever-more-sophisticated jet fighters and interceptors. Beginning in 1961, the Strategic Air Command operated Looking Glass, an airborne command center from which the president could conduct nuclear war and direct the firing of intercontinental ballistic missiles if the ground-control centers were knocked out.[24]

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[22] Robert J. McMahon, "US national security policy from Eisenhower to Kennedy," in Leffler and Westad, *Cambridge History*, 1:300–302; Melvyn P. Leffler, *For the Soul of Mankind: The United States, the Soviet Union, and the Cold War* (New York: Hill and Wang, 2007), 67.

[23] Gaddis, *Cold War*, 63–65; Holloway, "Nuclear Weapons," in Leffler and Westad, *Cambridge History*, 1:384–386, 392; Albert Wohlstetter, "The Delicate Balance of Terror," *Foreign Affairs* 37, No. 2 (January 1959): 211–234.

[24] BDM, *Air and Ballistic Missile Defense*, 1:28, 2:32.

An EC-135 Stratolifter tanker refuels a second Stratolifter that will assume the position of Looking Glass, the airborne nuclear forces command center, January 1, 1987. By Chief Master Sargent Don Sutherland. Department of Defense photograph. Courtesy of NARA, Record Group 330.

In the United States, research on the first system of intercontinental ballistic missiles (ICBMs) dated to 1945. Based on the German V-2 rocket, the first American version was called Atlas, a liquid-fuel rocket with a 6,000-mile range that could carry an 8,000-pound nuclear warhead to within 1,000 yards of the target. A series of Atlas missiles, A through F, were tested and deployed between 1954 and 1962. The missiles were at first installed above ground on launch pads, but later were maintained and fueled in belowground silos and then lifted to the surface for launch. They were installed at Air Force bases, including Vandenberg (California), Forbes and Schilling (Kansas), Offutt and Lincoln (Nebraska), Walker (New Mexico), Plattsburgh (New York), Altus (Oklahoma), Dyess (Texas), Fairchild (Washington State), and Warren (Wyoming). The Atlas system was phased out by April 1965.[25]

[25] Mark Berhow, *U.S. Strategic and Defensive Missile Systems, 1950–2004* (Oxford, UK: Osprey Publishing, 2005), 6, 62. The White Sands V-2 Launch Site received NHL designation in 1985.

An Atlas ICBM is prepared for launch from Space Launch Complex 3 at Vandenberg Airforce Base, California, n.d. Photocopy US Air Force photograph. Courtesy of LOC P&P, HAER CAL, 42-LOMP, 1–14.

The Titan system replaced the Atlas. Development began in 1954–1955, even as the Atlas rockets were being tested and deployed. Titan's fueling system was simpler and safer than Atlas's, and the range of later Titan models improved to 9,000 miles. The rockets were stored and maintained in "super-hardened" silos buried deep underground, and the operational, guidance, and maintenance facilities were likewise below ground. There were differences between the arrangement of the facilities for the Titan I and Titan II systems, however. In the case of Titan I, the missiles and the facilities were close together; for Titan II, the missiles were spaced at least seven miles apart. The Titan Is, with a range of 6,300 miles, were installed at Air Force bases in California (Beale), Colorado (Lowry), Idaho (Mountain Home), South Dakota (Ellsworth), and Washington State (Larson). The Titan IIs, with a 9,000-mile range, were installed at bases in Arizona (Davis-Monthan), Arkansas (Little Rock), and Kansas (McConnell). The Titan I system was phased out in 1965; the Titan II system was retired between 1984 and 1987.[26]

Minuteman missiles replaced the Titans. Although the Air Force began research as early as 1954 on solid fuels as an alternative to the more-volatile and -complicated liquid-fuel

[26] Berhow, *Missile Systems*, 6, 62. A Titan II site, Air Force Facility Missile Site 8 Military Reservation, Arizona, was designated an NHL in 1994.

systems of Atlas and Titan, at first such fuels were not powerful enough to deliver the heavy payloads to their targets. Later in the decade, as more-powerful solid fuels were designed and the payloads became lighter, what was called the Minuteman rocket was tested successfully. In October 1962, the first Minuteman missiles were activated. They were deployed at Air Force bases, including Whiteman (Missouri), Malmstrom (Montana), Minot and Grand Forks (North Dakota), Ellsworth (South Dakota), and Warren (Wyoming). The facilities, including control and maintenance centers and silos, sprawled over thousands of acres. During the 1960s, Minuteman II and Minuteman III joined the system; production ended in 1978, but Minuteman missiles remained deployed until the end of the Cold War.[27]

The first American antiaircraft system, operational by 1954 and fully deployed under U.S. Army control by 1956, was called Nike Ajax. Each radar-directed, liquid-fuel rocket carried three conventional high-explosive warheads to defend against single Soviet bombers. It was tested at White Sands Missile Range, New Mexico, and then the system was installed around major American cities under U.S. Army control; the first battery was installed at Fort Meade, Maryland, near Washington, D.C., in December 1953. Nikes also protected Baltimore, Boston, Chicago, Cleveland, Detroit, Hartford, Milwaukee, New York, Norfolk, Philadelphia, San Francisco, and Seattle, as well as other cities. Each installation consisted of three areas: integrated fire control, launcher and magazine, and administration. For missile control and tracking, the control area was typically more than a thousand yards from the launch site. Because most installations were near cities and not on military posts, typically one or more tracts of land had to be acquired.[28]

Even before the Nike Ajax was deployed, research began in 1953 on the next generation of Nike missile, dubbed Hercules. Larger and powered with solid fuel, the Nike Hercules could carry a conventional or nuclear warhead capable of destroying entire formations of Soviet bombers, not just a single aircraft. First tested at White Sands in 1955, the early Hercules had a range of 50 miles and an altitude capability of 70,000 feet; alterations eventually increased the range to 90 miles and the altitude to 150,000 feet. The conversion of selected sites from Ajax to Hercules began on June 30, 1958, at Site C-03 in the Chicago Defense Area and was completed in 1962. Entirely new Hercules sites were added to protect Anchorage, Cincinnati, Dallas, Fairbanks, Kansas City, Little Rock, Minneapolis–St. Paul, Oahu, St. Louis, and Thule Air Base in Greenland, among other locations including foreign countries. As the anticipated threat changed from Soviet bombers to ICBMs, however, the missiles became obsolete. By the end of the 1960s, the Hercules sites had almost all been deactivated. By October 1, 1974, all of them had been deactivated, with the exception of sites in Florida and Alaska. These sites, at Homestead Air Force Base and at Anchorage, remained open until 1979.[29]

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[27] Berhow, *Missile Systems*, 6, 62. Minuteman Missile Historic Site, California, became an NPS unit in 1999.

[28] Berhow, *Missile Systems*, 6, 60. A Nike missile installation is part of San Francisco's Golden Gate National Recreation Area, and another one is within Everglades National Park.

[29] Ibid.

In the 1950s, yet another interceptor missile was developed, the BOMARC (named for the two research participants, Boeing and the Michigan Aeronautical Research Center), under control of the U.S. Air Force. It could carry either conventional or nuclear warheads, rise quickly to 60,000 feet, and then cruise like a jet aircraft for 230 nautical miles. The A model was liquid-fueled; the B model, developed in 1959–1960, was solid-fueled and had a range of 440 nautical miles. The BOMARC A was deployed in 1959 at McGuire (New Jersey) and Suffolk County (New York) Air Force bases, and in 1960 at Otis (Massachusetts), Dow (Maine), and Langley (Virginia) Air Force bases. The BOMARC B was deployed beginning in 1960 at McGuire, Otis, Langley, Kinross/Kincheloe (Michigan), Duluth (Minnesota), and Niagara Falls (New York) bases, as well as at North Bay (Ontario) and La Macaza (Quebec). Plans to install them at other sites were cancelled for the same reason as the deactivation of the Hercules sites: obsolescence in the face of Soviet missiles as the primary nuclear-weapon delivery system. The Air Force began closing the BOMARC sites in 1964; the last one, McGuire, was closed in 1972.[30]

Antiballistic missile (ABM) research began in 1945, as the Allies sought ways to knock down German V-2 rockets, and then dwindled in importance in America as Soviet bombers posed the primary threat early in the 1950s. When the Soviets improved the range and accuracy of their ICBMs by mid-decade, however, ABM research resumed in earnest. The result was the Nike Zeus, which carried a five-megaton nuclear warhead, had a range of more than 250 miles, and could ascend to an altitude of 200 miles. It acquired and tracked its targets using an array of four radars. The U.S. Army first test-fired the Nike Zeus on December 14, 1961, at Kwajalein Atoll in the southwestern Pacific Ocean. Concerns over the radar's ability to distinguish between incoming real and decoy warheads, however, led to the cancellation of the program and the commencement in 1964 of research into a replacement. Instead of one missile system, the new system had two: a primary ABM named Spartan and a backup named Sprint, which was intended to intercept any ICBMs that evaded the Spartan defense. In 1968, President Lyndon B. Johnson announced plans to deploy the new missiles as the Sentinel ABM program. The Nixon administration put the plan on hold, then reconfigured it in 1969 as the Safeguard ABM system, and assigned it the mission of protecting American ICBM fields. Construction began at two Safeguard sites, Malmstrom (Montana) and Grand Forks (North Dakota) Air Force bases, and other sites were authorized, but the Antiballistic Missile Treaty signed in 1972 halted construction. The treaty allowed each side two ABM sites, one to protect an ICBM field and the other at the national capital, so the Grand Forks site was completed while the Washington, D.C., site was never begun. On October 1, 1975, the Grand Forks site (renamed in 1974 the Stanley R. Mickelson Safeguard Complex) was declared operational. The next day, however, the U.S. Congress voted to terminate it; the complex was mothballed in February 1976.[31]

[30] Ibid, 5, 62.
[31] Berhow, *Missile Systems*, 6, 62; BDM, *Air and Ballistic Missile Defense*, 2:179–196.

The Perimeter Acquisition Building at Stanley R. Mickelsen Safeguard Complex in North Dakota, 1992. The Safeguard ABM system used powerful phased array radar to detect incoming missiles. Courtesy of LOC P&P, HAER ND-9-P-11.

Whether nuclear attack from the Soviet Union came in the form of missiles or bombers or both, the United States considered the construction of an effective early-warning-radar system as necessary to provide a chance of defending against such an attack or reducing its destructive effect. Although numerous radar systems were employed during the Cold War years, the earliest and most ambitious was the DEW (Distant Early Warning) Line, a string of stations stretching across Alaska, Canada, and Greenland several hundred miles above the Arctic Circle. Begun in 1957 and essentially completed in 1960, the DEW Line was supplemented by other, similar lines farther south. To improve communication among DEW stations and other facilities, the Air Force constructed the White Alice telecommunications system, which employed new technology including microwave radio links, at about the same time. Within two decades, satellite communications rendered the White Alice system obsolete and it was dismantled.[32]

[32] BDM, *Air and Ballistic Missile Defense*, 1:129–132, 2:138–140, 150–151.

Front and rear of dish radars in Distant Early Warning Line Station, Bullen Point, Prudhoe Bay, Alaska, 1992. Courtesy of LOC P&P, HABS AK-201-4.

Each side spied on the other, determined to assess its adversary's capabilities and to plan for unexpected threats. Because it was difficult for the United States to penetrate the Iron Curtain, a special aircraft was developed to fly over it: the U-2. Designed to fly at 70,000 feet, well above the limits of Soviet SAMs (surface-to-air missiles), the U-2 carried advanced photographic equipment. Lockheed manufactured it for the Central Intelligence Agency, and the first flight took place at Groom Lake (Area 51) on August 1, 1955. The first flight over the Soviet Union occurred on July 4, 1956, and many others followed over the next four years. Among other discoveries made was the fact that the "bomber gap" did not exist, and neither did the "missile gap." The Soviets had far fewer of each delivery vehicle than had been thought. On May 1, 1960, however, the Soviets avenged the discovery of their secrets by shooting down a U-2 with an advanced SAM, scavenging the wreckage, and capturing the pilot, Francis Gary Powers. Khrushchev also caught the Eisenhower administration in a lie when the State Department first claimed that the aircraft was a weather flight gone astray: he gleefully displayed the wreckage, the camera, and the photographs that had been taken. A furious Eisenhower was forced to acknowledge the falsehood. Khrushchev made the most of his propaganda coup, using

the episode to wreck the previously scheduled summit meeting with Eisenhower in Paris two weeks later.[33]

Throughout the decade preceding the U-2 Incident, the West and the Soviets had taken steps to strengthen alliances with other nations around the world to foil what they each saw as the military ambitions of the other side. On April 4, 1949, the United States joined with Belgium, Canada, Denmark, France, Great Britain, Iceland, Italy, Luxembourg, the Netherlands, Norway, and Portugal to form the North Atlantic Treaty Organization (NATO) for mutual defense. Greece, Spain, Turkey, and West Germany subsequently joined as well. China and the Soviet Union signed a bilateral defense commitment, the Sino-Soviet Pact, on February 15, 1950. The United States signed a mutual defense assistance agreement with Vietnam on December 23, 1950, to assist the French in what was then a colonial war. The next year, on September 8, the United States and Japan signed a treaty allowing an American military presence in Japan to defend the nation. The United States also negotiated a mutual security agreement with the Philippines, as well as another with Australia and New Zealand called the ANZUS Pact. On September 7, 1954, eight nations formed the Southeast Asia Treaty Organization (SEATO)—the United States, Australia, Britain, France, Pakistan, the Philippines, Thailand, New Zealand—to oppose Soviet military aggression. In response, the Soviet Union formed the Warsaw Pact alliance on May 14, 1955, to provide for the mutual defense of Albania, Bulgaria, Czechoslovakia, East Germany, Hungary, Poland, Rumania, and the Soviet Union. All of these pacts and alliances were essentially for mutual defense in case of conventional attacks and warfare, since total nuclear war would obliterate most of the world regardless of alliances. They also failed to deter either side from taking actions short of general war, particularly in Third World nations.[34]

In addition to weapons, threats, and alliances, both the United States and the Soviet Union utilized propaganda in various forms to present their messages to the world (especially the Third World) as well as to their own citizens. Through the United States Information Agency, Radio Free Europe, and Voice of America, the Western message was broadcast to Soviet radios despite attempts to jam the transmissions, and later, as the number of televisions in the Soviet Union increased, Western programs were beamed there. The cultural exchanges that Khrushchev encouraged late in the 1950s worked both ways. The Soviet message got out (but was taken with a grain of salt in the West), while Soviet citizens were stunned to see evidence of the higher standards of living, abundant consumer goods, countless choices for entertainment, and other benefits of life in the West, in contrast with what their leaders had been telling them. Motion pictures and novels not only featured the other side's spies as the enemy, but also played to fears common to each side about the possibility of catastrophic nuclear war.[35]

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[33] Gaddis, *Cold War*, 73–74, 167–168.

[34] Gaddis, *Cold War*, 34–35, 108–109; McMahon, "US national security policy," in Leffler and Westad, *Cambridge History*, 1:299–300.

[35] Nicholas J. Cull, "Reading, viewing, and tuning in to the Cold War," in Leffler and Westad, *Cambridge History*, 2:438–455.

By the mid-1950s, tentative and ineffective steps had been taken to reduce the nuclear threat despite the saber-rattling on both sides. At the first summit conference between Eisenhower and Khrushchev in Geneva, Switzerland, on July 18, 1955, Eisenhower proposed the mutual aerial reconnaissance of the United States and the Soviet Union ("open skies"), so each country could keep an eye on the other. Khrushchev rejected the idea, unaware that the U-2 flights would soon begin and provide the United States with the truth about Soviet bombers and missiles anyway. On October 4, 1957, the Soviet Union shocked the world, in addition to shaking American confidence that the U-2s were providing all necessary information about Soviet missiles, by launching *Sputnik*, the first manmade satellite to orbit the Earth. A month later, on November 3, the Soviets launched *Sputnik 2*, which carried a living creature (a dog) into orbit. The fact that the United States responded quickly, launching *Explorer I* into orbit on January 31, 1958, did little to deflate renewed fears of a "missile gap" with the Soviet Union. The Soviets had changed the strategic equation with *Sputnik*, opening the door on spying by satellite and, theoretically, on launching attacks by satellite. On September 13, 1959, the Soviets again demonstrated their dominance in the "space race" by crashing a spacecraft on the Moon. In 1960, the United States launched the military reconnaissance satellite *Midas II* on May 24, and then on July 20 fired the first ballistic missile (Polaris) from a submerged submarine, off Cape Canaveral, Florida. Nuclear tensions did not appear to be declining, and to many Americans it appeared that the Soviets had achieved technological superiority over the United States.[36]

Appearances—over the long haul if not in the short term—were deceiving, however. It was true that the Soviets, by making an almost superhuman technological effort in one field at the expense of other undertakings, could achieve remarkable success. But it could not be sustained. Although both the Soviets and the Americans devoted considerable resources to weapons and rocket development, the Soviets compartmentalized their efforts, segregating scientists, declaring certain lines of inquiry off-limits, and allowing for no cross-pollination of ideas and research. In the United States, however, research scientists were not only located at government facilities but also in public universities and corporations. The constraints of national security and necessary secrecy aside, sharing was widespread. Private-sector inventions were adapted for military use and vice versa. Transistors and computer chips helped achieve the miniaturization necessary to pack multiple functions in a single satellite, for example. Great advances in personal computing later in the Cold War were developed by youthful American hobbyists working in their garages and clubs, which would have been unthinkable in the Soviet Union. The apparent Soviet supremacy in technology was a fleeting illusion, and that particular race was over almost before anyone in the United States realized it.[37]

[36] Gaddis, *Cold War*, 68, 72–73.

[37] David Reynolds, "Science, technology, and the Cold War," in Leffler and Westad, *Cambridge History*, 3:378–399.

President Kennedy observes a Polaris missile launched from a submarine in Florida, November 16, 1963. By Robert Knudsen. Courtesy of NARA, Robert Knudsen White House Photographs.

On November 8, 1960, John F. Kennedy was elected President of the United States. On April 12, 1961, in one of the last Soviet technological "firsts," astronaut Yuri Gagarin became the first man to orbit the Earth; Alan B. Shepard quickly became the first American to make a suborbital flight on May 5, but it was not until February 20, 1962, that John Glenn became the first American to orbit the Earth. The president soon declared a national goal of sending a man to the Moon and returning him safely to earth before the end of the decade.[38]

[38] Gaddis, *Cold War*, 74–75, 129. For a list and discussion of the sites associated with the American space program, see Harry A. Butowsky, *Man in Space: National Historic Landmark Theme Study* (Washington, DC: National Park Service, 1984), available as a PDF file on the NPS website, http://www.npshistory.com/publications/nhl/theme-studies/man-in-space/index.htm.

The first non-space-related crisis to hit the new presidency was the Bay of Pigs fiasco in Cuba on April 17, 1961. Authorized by the Eisenhower administration and approved by President Kennedy, the invading force of a thousand CIA-trained Cuban refugees were supposed to spark a rebellion to overthrow Fidel Castro, but instead they were killed or captured soon after they landed at the Bay of Pigs. When Khrushchev and Kennedy met at the Vienna Summit Conference on June 3, the Soviet leader used the invasion to bully the younger president, threatening to make the division of Germany permanent (the possibility of reunification had long been a debating point). On August 13, East Germany closed the Brandenburg Gate, the principal crossing point between East and West Berlin, in preparation for constructing the Berlin Wall. Nuclear weapons testing, which both sides had held in abeyance for some time, resumed in September both in the atmosphere and underground.[39]

BERLIN WALL REINFORCED -- Under the watchful eye of Communist police, East German workers near the Brandenburg Gate reinforce the wall dividing the city. Since erecting the wall on August 13, 1961, to stop the flow of East Germans into West Berlin, the East German Communists have added bunkers, spotlights and firing and observation posts. Photo from IPS. (61-12996. Accompanies 2-1/71-SM-49.)

East German workers reinforce the Berlin Wall near the Brandenburg Gate, October 1961. US Information Agency photograph. Courtesy of NARA, Record Group 306.

Then, on October 14, 1962, a U-2 flying over Cuba photographed Soviet bases capable of launching nuclear missiles against U.S. cities, thereby precipitating the Cuban Missile Crisis. For the next two weeks, the United States and the Soviet Union came close to nuclear war as the president demanded that the missiles be removed. When Khrushchev

[39] Gaddis, *Cold War*, 74, 76, 84, 114–115.

refused (he considered them a counterbalance to American missiles stationed in Turkey close to the Soviet border), Kennedy ordered a "quarantine" of shipping to Cuba and announced that a nuclear attack from the island would be considered a Soviet attack requiring full retaliation against Russia and the Soviet Union. At Malmstrom Air Force Base in Montana, a flight of Minuteman ICBMs was placed on operational alert. A Soviet ship was stopped at sea and turned away, technically an act of war, but the incident passed quietly. On October 27, a Soviet surface-to-air missile shot down a U-2 on a reconnaissance mission and killed the pilot, Maj. Rudolf Anderson Jr., escalating tensions even further. The next day, however, Khrushchev agreed to remove all missiles from Cuba, while Kennedy agreed to make no more Bay of Pigs–type incursions and (secretly) to remove missiles from Turkey. Most Americans regarded the conclusion of the Cuban Missile Crisis as a victory for the United States, but the Soviets had secured some concessions that were important to them as well. The crisis marked a turning point in the Cold War in that neither superpower ever again took such deliberate risks or came quite so close to disaster.[40]

Kennedy had claimed during the 1960 election campaign that a large "missile gap" existed between the United States and the Soviet Union. In a way he was right, but the gap was on the Soviet side, not the American side as he had asserted. The Soviets knew that the Eisenhower administration knew of their shortfall, as did the Kennedy administration that followed, and both sides knew that there was a good deal of Soviet bluffing during the Cuban Missile Crisis. To avoid being at such a disadvantage ever again, the Soviets launched a massive nuclear weapons buildup and the United States responded in kind. Over the next decade, America fielded more than a thousand ICBMs, several hundred submarine-launched ballistic missiles (SLBMs), and multiple-warhead missiles (MIRVs). Eventually, by early in the 1970s, the Soviet Union achieved nuclear parity with the United States. That result, which both sides understood, was that neither side could survive nuclear war. Given the vast numbers of both strategic and tactical nuclear weapons, however, it increased the likelihood of accidental or inadvertent disaster. Nevertheless, both sides continued to press on with their war of propaganda and low-grade confrontation, especially in the Third World of unaligned or teetering nations.[41]

The Kennedy administration adopted a different approach to the Third World and Soviet adventurism there than had the Eisenhower administration. Taking a more proactive approach to challenging the lure of Soviet assistance, Kennedy and his advisors developed the Peace Corps, which sent young, idealistic Americans to Third World countries to assist in a variety of ways from teaching to helping plant crops to advising emerging corporations. The goal was to counter Soviet propaganda about "ugly Americans" and it was largely successful. Less successful, however, was another

[40] Gaddis, *Cold War*, 75–78; Holloway, "Nuclear weapons," in Leffler and Westad, *Cambridge History*, 1:394–397. *See also*: Ernest R. May and Philip D. Zelikow, *The Kennedy Tapes: Inside the White House during the Cuban Missile Crisis* (Cambridge, MA: Harvard University Press, 1997), 571 ff., for the effect of the U-2 shoot-down on the direction and resolution of the crisis.

[41] William Burr and David Alan Rosenberg, "Nuclear competition in an era of stalemate, 1963–1975," in Leffler and Westad, *Cambridge History*, 2:88–111.

Kennedy program, the Alliance for Progress. Using American funding, it was designed to help Third World nations in Latin America fight poverty and disease, improve infrastructure, and boost education. Always underfunded, the program fell short of its lofty goals.[42]

Kennedy also modified the previous administration's "massive retaliation" doctrine, with which he disagreed, preferring to institute a range of nonnuclear options dubbed "flexible response." Some European allies worried that the new approach signaled that America was backing away from its mutual defense commitments. Kennedy had to spend time convincing them that such was not the case.[43]

In June 1963, Kennedy visited Berlin and made his "Ich bin ein Berliner" speech to signify American solidarity with the city's residents—and by extension, with the rest of Europe. In the same month, a teletype link between the White House and the Kremlin, the Hot Line, was established to improve communications between the adversaries and lessen the chance of misunderstandings leading to nuclear war. With no one happy about the pollution and other dangers of aboveground nuclear testing, on October 7 Kennedy signed the Limited Test Ban Treaty, in which the United States, the Soviet Union, and Britain agreed to ban tests in the atmosphere, under water, and in outer space. Underground tests were allowed to continue. Then, on November 22, Kennedy was assassinated in Dallas, Texas. When it was discovered that the presumed assassin, Lee Harvey Oswald, had lived in the Soviet Union, both the Russians and the Americans wondered if there was any connection. Much to the Soviets' relief, a check of KGB files revealed that although Oswald had been approached by the spy agency, he was determined to be too unstable to be of use, and no attempt had been made to recruit him as an agent.[44]

The new president, Lyndon B. Johnson, planned to concentrate on domestic issues, such as civil rights and a "war on poverty," but soon Vietnam dominated foreign affairs. The United States had become embroiled there slowly, first supporting its French ally in the colonial war, then shifting support to the Vietnamese in 1954 when the likelihood of French defeat loomed. The Geneva Accords of 1955 officially recognized North and South Vietnam, ending the colonial war against the French, who departed in 1956. On December 20, 1960, Ho Chi Minh, the leader of the Republic of Vietnam (North Vietnam), organized the National Liberation Front of South Vietnam (NLF). On May 11, 1961, President Kennedy authorized American advisors to aid the South Vietnamese government in its fight against the NLF. When North Vietnamese vessels allegedly attacked American ships in the Gulf of Tonkin, on August 2, 1964, Johnson ordered retaliation on August 4. Three days later, the U.S. Congress approved the Gulf of Tonkin Resolution, which gave the president the power to take "all necessary measures to repel any armed attack against the forces of the United States, and to prevent further aggression." The resolution (repealed during the Nixon administration in January 1971)

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[42] McMahon, "US national security policy," in Leffler and Westad, *Cambridge History*, 1:306–307.

[43] Ibid, 303–305, 308–309.

[44] Gaddis, *Cold War*, 81; Gerald Posner, *Case Closed: Lee Harvey Oswald and the Assassination of JFK* (NY: Random House, 1993), 54–56.

gave Johnson carte blanche to carry on war with North Vietnam, an opportunity he exploited until the end of his presidency on the grounds that if South Vietnam fell to the communists, other countries in Southeast Asia would also tumble (the "domino theory" that Eisenhower first expounded and Kennedy subsequently endorsed). Johnson quickly escalated American involvement, in part due to South Vietnamese incompetence, and soon half a million American troops were in the fight.[45]

USS Turner Joy, May 9, 1964. USS Turner Joy was one of two US destroyers that returned fire to what they believed were hostile actions by North Vietnamese vessels in the Gulf of Tonkin on August 4, 1964. By Photographer's Mate Petty Officer 1st Class Moen. US Navy photograph. Courtesy of NH Series 98000, Naval History and Heritage Command Photo Archives, https://www.history.navy.mil/our-collections/photography/numerical-list-of-images/nhhc-series/nh-series/NH-98000/NH-98257.html.

In the Soviet Union, meanwhile, a silent, bloodless coup took place on October 15, 1964, when Politburo members including Leonid Brezhnev and Alexei Kosygin ousted Khrushchev from his leadership position. They cited a list of grievances, including the national humiliation suffered over the Cuban missile disaster and the embarrassment over the Berlin Wall (which was obviously constructed to keep East Berliners in, not to keep West Berliners out), and Khrushchev went quietly. He even professed to be pleased that his removal was accomplished with no loss of life, unlike what would have happened if a

[45] Gaddis, *Cold War*, 168–170, 173, Edwin E. Moïse, in his *Tonkin Gulf and the Escalation of the Vietnam War* (Chapel Hill: University of North Carolina Press, 1996), presents evidence that the August 4 "attack" was actually an honest misunderstanding of radar data and other issues, which produced the chain of events that led to the passage of the resolution.

similar attempt had been made against Stalin a dozen years earlier. It was an odd sort of change in which to take pride—that the Soviet system and its leaders had become slightly less inclined to kill—but Khrushchev's successors would soon reverse the trend as the satellite nations began to take the change seriously.[46]

In the United States, Johnson became bogged down in Vietnam in a seemingly endless escalation of troop insertions, bombing campaigns, and inflated enemy "body counts." Determined, as he put it, not to be the first American president to lose a foreign war, Johnson faced growing opposition in the United States. On January 30, 1968, however, despite the bombing and almost half a million American troops in Vietnam supporting or conducting "search and destroy" missions, North Vietnamese and NLF troops launched the Tet Offensive all over South Vietnam. Although the result was a communist defeat, the fact that such an offensive could be launched at all destroyed the administration's credibility.[47]

Adding to the perceived dangers that America faced, China had joined the nuclear powers on October 16, 1964, with the explosion of its first atomic bomb. It exploded its first hydrogen bomb on June 17, 1967, not even three years later. Between the two events, in April 1966, the Chinese began their Cultural Revolution, sparking several years of dangerous chaos there. In the spring of 1968, in Czechoslovakia, communist party leader Alexander Dubček initiated reforms, including greater freedom of expression, to create "socialism with a human face." Once unleashed, however, such reforms led to others, and before long Brezhnev and the other Soviet leaders had had enough. On August 20, tanks and infantry rolled into Czechoslovakia and crushed the Prague Spring, while courageous Czechs confronted the armor and soldiers with verbal abuse and signs proclaiming, among other things, "Hide your mothers and sisters—the Russians are coming!" (alluding to the mass rapes that Russian soldiers perpetrated in Germany and elsewhere at the end of World War II).[48]

For the United States, 1968 was a year of tragic events. In Vietnam on March 16, the My Lai massacre occurred when an American platoon gunned down unarmed villagers including old men, women, and children, creating a national scandal when the killings became public knowledge the next year. On April 4, the renowned civil rights leader Dr. Martin Luther King Jr. was assassinated in Memphis, Tennessee. Two months later, on June 5, Senator Robert F. Kennedy was assassinated in Los Angeles, California, while campaigning for the Democratic nomination to seek the presidency. Johnson, on March 31, had shocked the nation by announcing that he would not seek reelection. In Paris on May 10, peace talks began between the United States and North Vietnam but made little progress. Later in the year, on October 31, Johnson stopped the bombing of North Vietnam and invited South Vietnam to the peace talks, which continued to drag on.[49]

[46] Gaddis, *Cold War*, 119–120.
[47] Gaddis, *Cold War*, 170.
[48] Gaddis, *Cold War*, 147–148, 185, 188.
[49] Gaddis, *Cold War*, 169–171.

On November 5, 1968, Richard M. Nixon was elected President of the United States. A shrewd, divisive, and ultimately inscrutable politician, President Nixon had first risen to prominence late in the 1940s as a staunch anticommunist. He had campaigned for the presidency on a platform of "peace with honor" in Vietnam, assuring the American people that he had a "secret plan" to bring the war to an end. After taking office, however, and having inherited more than half a million troops in Vietnam, in March 1969 he ordered the bombing of Cambodia to foil North Vietnamese attacks. Then on June 8, he ordered the first American troops out of Vietnam under a "Vietnamization" plan. Over the next three years, Nixon mixed bombing halts and starts and troop reductions as well as the invasion of Cambodia with lengthy, on-and-off negotiations at the Paris peace talks.[50]

President Nixon discusses the North Vietnamese Army's position during a press conference, April 30, 1970. Courtesy of NARA, Nixon White House Photographs.

In the meantime, American antiwar fervor reached its height in 1970, especially on college campuses, but the killings of students at Kent State University and Jackson State College during protests sobered the nation. The protest movement was part of a larger Cold War phenomenon called the counterculture. Although antiwar protests were largely identified with college students, the counterculture permeated American society and reflected dissatisfaction with aspects of American life ranging from expectations of domesticity to racial segregation to what many saw as a needless war. Arising in quiet opposition to the social and political conformity of the 1950s, the counterculture manifested itself most notably in the women's movement, the Civil Rights movement,

[50] Gaddis, *Cold War*, 172.

and in the youth-driven antiwar movement (with which the counterculture was most closely identified). Similar countercultural movements arose in both other Western countries and in the Soviet Union. Invariably, wherever there was a counterculture there was also a backlash, sometimes violent. Having gained momentum over more than a decade, the counterculture did not expire when America's role in Vietnam ended in 1973.[51]

On January 27, 1973, the Paris Accords were signed, establishing a ceasefire and a political settlement to American involvement in the war. The last American combat forces left the country on March 29, 1973, bequeathing the fight to the Vietnamese. Two years later, communist forces occupied Saigon on April 30, 1975, as the Americans hastily evacuated the embassy and left to the mercy of the communists thousands of refugees clamoring outside the fence. The final scenes, with helicopters evacuating embassy staff members and a handful of loyal Vietnamese, epitomized the chaos of war. American television showed the desperate Vietnamese pressing against the embassy gates, being punched as they tried to climb aboard the last helicopter and watching sadly as it flew away.[52]

Ironically, it was Nixon, the staunch anticommunist, who succeeded in reducing for a time the Cold War conflict between the United States and the Soviets. On November 17, 1969, the two sides began the Strategic Arms Limitation Talks (SALT). A Non-Proliferation of Nuclear Weapons treaty went into effect on March 5, 1970; it proscribed the transfer of nuclear weapons to nonnuclear nations and the production of nuclear weapons in those nations. The negotiations and the nonproliferation treaty did not prevent the Minuteman III ICBM system from becoming operational in August, however.[53]

Early in 1972, Nixon stunned his critics when he announced that he would go to China to negotiate directly with Mao Zedong—something only the anticommunist president could have done without earning the enmity of his political party. The visit took place February 21–28, 1972, and Nixon promised to withdraw American forces from Taiwan. On May 26, the United States and the Soviet Union signed the SALT I agreement, which restricted the development of antiballistic missiles and froze the numbers of ICBMs and submarine-launched ballistic missiles (SLBMs) for the next five years.[54]

To many Americans, it seemed counterintuitive to limit the number of ABMs to protect against missile attack. It was, however, a logical extension of the policy of planning for nothing less than total nuclear war (which had evolved into the policy of Mutual Assured Destruction under Secretary of Defense Robert S. McNamara): a nation essentially defenseless against nuclear attack or retaliation would do everything possible to avoid

[51] Jeremi Suri, "Counter-cultures: the rebellions against the Cold War order, 1965–1975," in Leffler and Westad, *Cambridge History*, 2:460–481.

[52] Gaddis, *Cold War*, 172–173. An iconic photograph that shows a crewman helping evacuees to a Huey helicopter on a roof is sometimes alleged to have been taken at the embassy; in fact, the helicopter was atop a nearby building at 18 Gia Long Street.

[53] Gaddis, *Cold War*, 199–200.

[54] Gaddis, *Cold War*, 149–152, 200.

nuclear war. With both the Soviet Union and the United States in the same posture, so the thinking went, the possibility of such a war was near zero.[55]

On May 29, 1972, Nixon and Brezhnev signed an agreement on the "basic principles of détente," the philosophy put forward to justify the new arrangements and relax tensions between the United States and the Soviet Union. Détente essentially was the acceptance of the political status quo in the world, especially in Eastern Europe, and the commitment on the part of both sides to continue to work together to reduce nuclear fears. It also recognized reality, in that for all of America's objections to the way in which the Soviets enforced their will in Eastern Europe, the United States had never taken any action to put a stop to it. Some in the United States, however, were not comfortable with silence in the face of Soviet oppression, even at the price of stability. Senator Henry M. Jackson and Congressman Charles Vanik, for example, secured passage of an amendment to a trade bill worked out with the Soviets, denying them most-favored-nation status because of their limitations on emigration. Angered, the Soviets cancelled the deal. Although détente would be the dominant approach to American-Soviet relations for most of the rest of the decade, the road would be full of such bumps.[56]

On November 7, 1972, Nixon was reelected president. Over the next year and a half, a minor burglary at the Democratic National Committee headquarters in the Watergate apartment complex in Washington would grow into perhaps the worst constitutional crisis the nation had faced since the Civil War. On March 1, 1974, a Washington grand jury returned an indictment against seven former presidential aides and named Nixon an "unindicted co-conspirator." The House Judiciary Committee opened presidential impeachment hearings on May 9; the existence of secret Oval Office tape recordings, which had been revealed on July 13, 1973, triggered a battle over access to them; the president defended himself on national television, famously declaring, "I am not a crook"; and on July 27, 1974, the House Judiciary Committee voted in favor of impeachment. To avoid the humiliation of a trial and likely conviction and removal from office, Nixon endured the humiliation of being the only president in American history to resign. On August 9, 1974, he left the White House and Gerald R. Ford took the oath of office as president.[57]

The Soviets were both puzzled and stunned, like many other foreigners, by this turn of events. What perhaps amazed them even more was that the nation had not collapsed into chaos during the crisis. President Ford put the country's sigh of relief into words when he declared, "Our long national nightmare is over." The Cold War, however, continued.

[55] Gaddis, *Cold War*, 80–81.
[56] Gaddis, *Cold War*, 180–184.
[57] Gaddis, *Cold War*, 155–158.

Part Three: The End of the Wall

A West German man chips off a piece of the Berlin Wall, November 14, 1989. By Staff Sargent Frank L. Corkran. Department of Defense photograph. Courtesy of NARA, Record Group 330.

The policy of détente continued from 1972 until the end of the Ford administration in 1976, although its heyday was 1972–1974, when Brezhnev dealt with Nixon. Brezhnev was its main proponent, often despite strenuous opposition in the Soviet hierarchy similar to what Nixon and Ford faced from hawks in Congress and elsewhere. Brezhnev's motivation, besides his view as a World War II veteran that war must be avoided at all costs, was in reaction to Khrushchev's adventurism and brinksmanship. On the surface, détente smoothed the way for cooperation in such matters as the space exploration, exemplified on July 17, 1975, when American and Soviet astronauts in *Apollo* and *Soyuz* spacecraft linked up in orbit. Negotiations also continued between the Soviets and the United States not merely to limit the spread and deployment of nuclear weapons but also to begin reducing their numbers. The status quo remained seemingly strong, with the Soviet leaders dealing with their internal issues brutally despite periodic protests from human-rights supporters on the outside. Inside the Soviet Union, however, the structure supporting the facade slowly began to crumble. As it crumbled, so too did détente, in part because of opposition and changes in leadership in both the Soviet Union and in America.[58]

Saturn 1B rocket lifts off on Apollo-Soyuz mission, Cape Canaveral, Florida, 1975. National Aeronautics and Space Administration. Courtesy of NARA, Record Group 255.

Communism had long claimed historical infallibility and the role of supreme supporter of workers' rights. The actions of the Soviet leaders from the 1950s and thereafter, however,

[58] Zubok, *Failed Empire*, 192–247, for a detailed exposition of détente from the Soviet perspective.

began to undermine those claims. Perhaps this process began on February 25, 1956, when Nikita Khrushchev denounced Stalin and his crimes—the enslavement and murder of millions—in detail to the 20th Congress of the Soviet Communist Party. Khrushchev took this action, which shocked the delegates to their cores, to justify party reforms, but his words created problems for himself and for the international communist movement. How could a party that claimed infallibility be subject to reform? The contradictions between dogma and reality became ever more obvious over the years: the crushing of the Hungarian uprising in 1956, the suppression of the Prague Spring in 1968, the notorious Gulag that Aleksandr Solzhenitsyn exposed to the world in the 1970s, the blatant lies of Soviet leaders during conflicts with the West, and the rising chorus of dissent within the Soviet Union all contradicted, to say the least, the official image of the workers' paradise. The Soviet Union, no less than any other form of government, relied ultimately in the faith of the governed to sustain it. Infallibility is a high standard to live up to; when the failure to attain it becomes obvious even to the most ardent supporters, structural collapse becomes almost inevitable.[59]

The contrasts between Western and Soviet rhetoric and ideals manifested themselves most clearly, perhaps, in the consumer-oriented economies that the centrally controlled Soviet countries lacked. Derided—often with justification—as mere crass materialism, consumerism was the engine that powered the economies of the United States and most other countries outside the Soviet Bloc. Consumerism was not just a desire for more things, but for things that freed people from drudgery, that encouraged a more interesting life, that offered more choices, and that promoted leisure activities. While the West could have both guns and butter thanks to its diverse, capitalist economies, the Soviets could only choose one or the other. Soviet consumers, therefore, always got shortchanged. No amount of propaganda could offset the obviously lower Soviet standard of living, which became all the more obvious when travel and cultural-exchange restrictions were eased. Even in Moscow, the most prosperous city in Russia, residents carried plastic bags at all times, and when they saw a long line outside an official Soviet shop, they only asked what was for sale after they joined the line. Usually, it was some product that had not been available yesterday, and would not be available tomorrow, nor even in a few hours. In contrast, Western consumers faced an overabundance of choices and products that even many of them regarded as ridiculous excess. Late in the Cold War, Russian president Boris Yeltsin visited a standard American supermarket. The plenitude of cans and boxes on the shelves so stunned him that he later wrote that he felt sick with despair for the Soviet people. The Soviets might achieve parity with, or even surpass the United States in numbers of missiles, but they would never be able to meet the demands of their own expanding and complaining consumer society. This was just one of the disparities between Soviet mythology and reality that contributed to growing dissatisfaction with the regime and contributed largely to the eventual collapse of the Soviet Union.[60]

This dissonance and anger developed slowly, but it gained momentum in August 1975 with the signing of the Helsinki Accords. The Soviet Union had, since 1954, sought

[59] Gaddis, *Cold War*, 84–87, 263–264.

[60] Emily S. Rosenberg, "Consumer capitalism and the end of the Cold War," in Leffler and Westad, *Cambridge History*, 3:489–513.

almost annually some official recognition by the West of the division of Europe, and the resulting Soviet sphere of influence there, that had come into effect at the end of World War II. The West, particularly the United States, routinely rebuffed the Soviet demand but under détente the Western refusal to recognize reality seemed futile. Europe was divided, after all, and seemed likely to remain that way. The Western nations, however, did not make it too easy for Brezhnev to get his document signed; they insisted on adding clauses about the peaceful change of international borders, the joining and leaving of alliances, the promotion of Western-Soviet contact through cultural exchanges (including music concerts), and, to some Soviet consternation, the recognition of human rights in accordance with the principles of the United Nations Charter. On reflection, however, Brezhnev assumed he could ignore those clauses when it came to the Soviet Union's internal affairs, just as he ignored similar statements in the Soviet constitution. They were mere words, after all, and the Soviets had always been quick to assert that for all of America's alleged devotion to human rights, the record was tainted by Native American genocide (both physical and cultural), the failure to grant full civil rights to minorities until forced to do so, and the support of Third World tyrants who oppressed their peoples. So, he signed the Helsinki Accords, little realizing that they would also lead to exposing Soviet economic failures and human rights hypocrisies to the world. Within the Soviet Union, however, there were those who took the mere words seriously. They included Solzhenitsyn, Andrei Sakharov, Vaclav Havel, and many others who were willing to risk their necks to hold their leaders accountable. Brezhnev had finessed himself into a trap.[61]

The situation, from the Soviet point of view, soon got worse. On October 16, 1978, a Polish cardinal was elected pope. Pope John Paul II was the first non-Italian pope in 455 years, the first Slavic pope, and the first pope whose native land was a communist country. He soon took much of the world by storm with his charisma, charm, intellect, common touch, and fierce love of Poland. In Moscow, Brezhnez and the Politburo were shocked, outraged, and frightened by the prospect of a pope from officially atheistic Poland. Their fears only increased when John Paul II made his first visit home to Poland in June 1979. At every stop, the crowds increased from the hundreds of thousands to the millions. The contrast between the joyful crowds in Poland and the typical Soviet "spontaneous" assembly of dour party functionaries could not have been more obvious. The images were broadcast around the world, along with the pope's message to all mankind, within and without the Soviet Union: "Be not afraid." The pope's message not only gave moral support to the Solzhenitsyns, Sakharovs, and Havels of the Soviet Union and Eastern Europe, it also gave hope and courage to the billions who lived under other forms of tyranny around the world.[62]

There were still reasons for concern if not fear, however. The end of détente arrived about a year and a half after Jimmy Carter was inaugurated as president in January 1977. First, he announced that foreign aid from the United States would be dependent on the applicant nation's commitment to human rights; this linkage was in part due to President Carter's own beliefs and in part to domestic pressure from human-rights advocates. Then, on May

[61] Gaddis, *Cold War*, 186–191; Cull, "Reading, viewing, and tuning in," in Leffler and Westad, *Cambridge History*, 2:455–458.

[62] Gaddis, *Cold War*, 192–195.

30, 1978, he recommended that NATO increase and modernize its military resources, signaling the end of détente—the status quo—through this shift in policy. In addition, the deployment of tactical nuclear missiles in Europe continued, putting additional pressure on the Soviets to respond with improved weapons systems of their own. In the Soviet Union, however, not only had technology not kept pace with the West, but the country was also facing near-bankruptcy after years of mismanagement of the centrally planned economy. On June 18, 1979, Carter and Brezhnev signed the SALT II agreement to limit long-range missiles and bombers. In December, NATO announced the deployment of intermediate-range nuclear weapons in Europe to counter Warsaw Pact SS-20 missiles, again putting pressure on the Soviet Union. Brezhnev had other matters weighing on him, however, such as the ongoing rebellion in Afghanistan against Soviet control. On December 20, the Soviets invaded the country, beginning a multiyear, ultimately fruitless war reminiscent of the American involvement in Vietnam. In protest, Carter cancelled American participation in the 1980 Olympics (in which each side exploited medals for their propaganda value) in Moscow and ordered a grain embargo, and the U.S. Senate refused to ratify the SALT II treaty. Under détente, Carter would have reacted to the Soviet invasion of Afghanistan with words of objection, not direct actions.[63]

In August and September 1980, an electrician named Lech Walesa organized an independent trade union at the Gdansk shipyard in Poland. As in the case of the election of Karol Wojtyla as pope, this event shook the Soviet leadership. Why would there be a need for a trade union if the communists were the protectors of workers? The Soviet leadership responded by trying to crush the trade-union movement, which Walesa and the members had named, ironically, Solidarity (communists emphatically expressed their "solidarity" with oppressed workers in capitalist countries). Protests and clashes with the police arose, and—again ironically—workers in capitalist countries expressed their solidarity with the Gdansk shipyard laborers by marching with Solidarity banners held high. After the Soviet leaders had convinced General Wojciech Jaruzelski, Poland's new president, that they were considering intervention, he declared martial law and arrested Solidarity's leaders including Walesa on December 13, 1981.[64]

Across the Atlantic, meanwhile, in January 1981 Ronald Reagan had been inaugurated president of the United States. A movie actor who had recently served as governor of California, President Reagan was notable for single-minded anticommunism tempered by a sunny, optimistic disposition and a folksy demeanor. Many critics considered him an intellectual lightweight, but they underestimated his determination and stubbornness. Reagan exuded charisma and was a very effective and rousing speaker.[65]

Although the foreign press liked to portray him as a "cowboy," or an independent, tough-talking gunslinger, in fact Reagan did not operate alone against the Soviets. Pope John Paul II, Lech Walesa, British Prime Minister Margaret Thatcher, and Solzhenitsyn and Havel, among many others, had been at the forefront of the movement long before Reagan was inaugurated president. As the leader of the United States, however, he

[63] Gaddis, *Cold War*, 202–203, 210–211; Leffler, *Soul of Mankind*, 263–272.
[64] Gaddis, *Cold War*, 196–197, 218.
[65] Gaddis, *Cold War*, 217–218.

immediately assumed a position of strategic importance. He quickly forged strong ties with Thatcher; they shared similar, conservative political philosophies, but they also found that they thought alike when it came to dealing with the Soviets.[66]

What was missing, however, was a Soviet counterpart with whom to negotiate. Brezhnev became increasingly feeble and died on November 10, 1982. Yuri Andropov, the cold and aloof former head of the KGB, succeeded Brezhnev as General Secretary of the Soviet Union two days later. Andropov fell ill and died in a Soviet hospital on February 9, 1984, and Konstantin Chernenko took over on February 13. The decrepit, aged Chernenko died on March 10, 1985. Reagan, exasperated, wondered aloud how he could ever deal with the Soviet leaders when they kept dying on him.[67]

The Soviet general secretaries were not the only leaders who faced death early in the 1980s. Barely two months into his first term as president, Reagan was shot by John Hinckley in an assassination attempt on March 30, 1981, in Washington. The president survived, thanks to successful surgery. A month and a half later, on May 13, Mehmet Ali Agca shot Pope John Paul II as he rode in his "popemobile" among the faithful in St. Peter's Square. The pope also survived, and the assassination attempt was quickly linked to Bulgarian intelligence. Soviet complicity was strongly suspected, given the Soviet leaders' fear of the pope, but never proved.[68]

Reagan's Cold War diplomacy initially turned up the volume against the Soviets. Through what some scholars have called the "little Cold War," he reprised the anti-communist rhetoric of rollback from the 1950s tagging the Soviet Union as "the evil empire" destined for the "ashbin of history" and intervened, sometimes openly and sometimes clandestinely, against what his administration perceived as hardline communist or socialist states in Afghanistan, Angola, and Nicaragua. The efforts of some in Reagan's national security staff to circumvent Congressional bans on covert military aid to the anticommunist contras in Nicaragua by selling weapons to Iran and giving the profits to the contras resulted in what became known as the Iran-Contra scandal. Those more aggressive policies began to give way as Reagan faced a new Soviet leader with whom Thatcher claimed he could do business—Mikhail Gorbachev, who succeeded Chernenko on March 13, 1985. Middle-aged, well-educated, articulate, bright, and friendly, Gorbachev charmed Vice President George H. W. Bush and Secretary of State George Schultz when they met him at Chernenko's funeral. Reagan met Gorbachev for the first time in November 1985 at the Geneva summit conference and also liked him, although the summit ended inconclusively over one of Reagan's ideas, the Strategic Defense Initiative (SDI, nicknamed Star Wars), which he offered to share.[69]

Reagan had first proposed SDI in a speech on March 23, 1983, thereby essentially repudiating the concept of Mutual Assured Destruction. Instead, he proposed using satellite, computer, and laser technology to destroy ICBMs immediately after launch. If

[66] Gaddis, *Cold War*, 223.
[67] Gaddis, *Cold War*, 224, 228.
[68] Gaddis, *Cold War*, 218–219, 222.
[69] Gaddis, *Cold War*, 229–233.

such a system were employed, Reagan said, nuclear missiles would be obsolete and should be scrapped. He was proposing, in other words, the complete abolition of nuclear weapons.

A Peacekeeper ICBM test launch, February 10, 1989. By Chief Master Sargent Don Sutherland. Department of Defense photograph. Courtesy of NARA, Record Group 330.

In the Kremlin, Andropov and the Politburo scoffed publicly but privately were panicked. Although the Soviet Union had caught up with the United States in the production of ICBMs, the country was hopelessly behind in computer technology and the sciences that might enable it to counter SDI. Andropov became convinced that Reagan's proposal was merely a prelude to a surprise nuclear strike, and when a Korean Air Lines passenger jet strayed into Soviet territory on September 1, 1983, the nervous Soviets shot it down. Later, in November, when NATO forces carried out their annual fall military exercises (Able Archer 83) but at a higher level of leadership participation than usual, Andropov again convinced himself that a nuclear attack was imminent and put the country on alert. It was the closest brush with nuclear war since the Cuban Missile Crisis.[70]

[70] Gaddis, *Cold War*, 226–228; *see also* Nate Jones, *Able Archer 83: The Secret History of the NATO Exercise that Almost Triggered Nuclear War* (New York: The New Press, 2016), in which Jones argues, based on recently declassified documents, that the Soviet leadership genuinely feared that the exercise was a cover for a surprise nuclear attack and prepared to make a preemptive strike.

Gorbachev learned that Reagan was sincere in his determination to implement SDI and eliminate the nuclear stockpile. Gorbachev also believed that Reagan and the United States would never launch a nuclear attack on the Soviet Union. At the same time, some scientists on both sides were hypothesizing the prospect of a nuclear winter if a massive atomic attack did occur, as particles rose high into the atmosphere from the firestorms that would destroy cities. Another turning point in Gorbachev's thinking occurred on April 26, 1986—an explosion at the Chernobyl nuclear power plant that spread contamination over a wide area. Investigations showed that the disaster was partly the result of incompetence, shoddy work, and carelessness, further convincing Gorbachev that fundamental changes were necessary (glasnost, or openness, and perestroika, or restructuring) within the Soviet Union if there was to be any hope of retaining the people's faith in the communist system. When Reagan and Gorbachev met at the next summit in Reykjavik, Iceland, in October 1986, both men seemed eager to find a way to eliminate the nuclear-weapons threat. The meeting ended unhappily, however, when Gorbachev kept pressing Reagan to confine SDI to the research laboratories instead of developing and deploying it, and Reagan refused. Negotiations continued nonetheless, and at the next summit meeting, in Washington in December 1987, Reagan and Gorbachev signed a treaty eliminating intermediate-range nuclear weapons in Europe.[71]

President Reagan and General Secretary Gorbachev meet at the Hofdi House during the Reykjavik Summit, Iceland, October 11, 1986. Courtesy of the Ronald Reagan Presidential Library, White House Photograph Collection.

[71] Gaddis, *Cold War*, 231–234.

President Reagan gives a speech at the Brandenburg Gate, West Berlin, June 12, 1987. White House Photography photograph. Courtesy of NARA, Reagan White House Photographs.

Reagan not only pressed for the abolition of nuclear weapons, he also urged Gorbachev to relax restrictions and increase freedoms in the Soviet Union. Most famously, in a speech at the Brandenburg Gate in West Berlin on June 12, 1987, Reagan pointed at the Wall and demanded, "Mr. Gorbachev, tear down this wall!" Gorbachev ignored the request, but he was at the time letting the world know that he would not oppose change with the use of force. In a speech to the United Nations on December 7, 1988, Gorbachev denounced force or even the threat of force as instruments of foreign policy. Fundamental change indeed had come to the Soviet Union.[72]

In China, however, the situation was different. Mao Zedong had died on September 9, 1976, setting off a long struggle for the succession. The eventual winner of that struggle, by the end of 1978, was Deng Xiaoping, a Chinese Communist Party leader whom Mao had purged several times. The resilient Deng, once in office, praised many of Mao's accomplishments, including making China a great power and opening relations with the United States, but repudiated the disastrously managed central economy. Instead, Deng embraced capitalism while maintaining the other elements of Mao's legacy. As a result, the Chinese economy had become one of the largest in the world by the time Deng died in 1997. His determination to restrict freedoms in the political arena, however, led to the Tiananmen Square Massacre in Beijing on the night of June 3–4, 1989. Students had been demonstrating there for more democracy—Gorbachev had even paid them a visit when he was in the city—but Deng finally had seen enough and ordered a brutal military

[72] Gaddis, *Cold War*, 235–236.

crackdown. An unknown number of students were killed. As tanks rumbled out of the square on June 5, their work accomplished, a man carrying two shopping bags walked into the street and blocked their path. For several moments, the man harangued the tank commander before bystanders hustled him away. A video camera in a nearby hotel captured the episode, which was soon broadcast around the world and became an iconic symbol of individual courage.[73]

Individuals were continuing to have an effect in Eastern Europe and the Soviet Union as well. After George H. W. Bush succeeded Reagan as president on January 20, 1989, he and Gorbachev eyed each other warily, with President Bush concerned that the Soviet leader's disarmament promises might be insincere. Over time they grew to trust each other, although there was never the warmth between them that Gorbachev and Reagan shared. In Hungary, the government dismantled the fence along the border with Austria, and soon East Germans began flowing through Hungary to the West. In Poland, Jaruzelski recognized Solidarity and allowed its candidates to participate in an election of delegates to a new bicameral legislature. Solidarity won all the seats it contested in the lower house and lost only one in the upper house. In each case, Gorbachev made it clear that the countries were on their own; there would be no Soviet intervention.[74]

East and West Germans watch as a section of the Berlin Wall is dismantled at Potsdamer Platz, Berlin, November 14, 1989. By Staff Sargent Frank L. Corkran. Department of Defense photograph. Courtesy of NARA, Record Group 330.

[73] Gaddis, *Cold War*, 242–243.
[74] Gaddis, *Cold War*, 239–241.

The East German government, under the hard-line communist ruler Erich Honecker, was extremely displeased over the Hungarian situation. When Gorbachev attended a parade during the East German government's fortieth anniversary celebrations on October 7–8, 1989, the marchers cheered him, not Honecker. On October 9, in Leipzig, antigovernment demonstrations almost resulted in a version of Tiananmen Square until an orchestra leader stepped from the crowd and persuaded the security forces to leave. Honecker resigned on October 18 and his successor, Egon Krenz, decided to ease the pressure by relaxing but not eliminating the rules for travel to the West.

On November 9, a government official misread the hastily drafted decree at a press conference and announced instead that East Germans who wished to leave could do so at any border crossing, effective immediately. Seemingly within minutes, crowds assembled at the crossings, including along the Berlin Wall, where the guards had no instructions. Finally, the guards at one crossing took it on themselves to open the gate, and East Berliners poured through into West Berlin. That night, television viewers around the world were stunned to see East and West Germans atop the Wall, dancing on it and attacking it with hammers, while the guards stood by, machine guns slung on their shoulders, and merely watched.[75]

Thus began the cascade. On November 10, 1989, the ruler of Bulgaria since 1954 announced that he was stepping down, and the communist party there began negotiating with the opposition for free elections. On November 17, prodemocracy demonstrations erupted in Prague, and within weeks Alexander Dubček was installed as chairman of the national assembly and Vaclav Havel was president of Czechoslovakia. In Romania, the brutal dictator Nicolai Ceausescu decided to follow Deng's example and on December 17 ordered his troops to gun down demonstrators. When he addressed a throng of supposed supporters on December 21, they booed him off the podium. He and his wife attempted to flee but were captured and tried for murder and were executed on Christmas Day. The end of East Germany came the next year with reunification. Reunification required dispelling the ghosts of World War II and accepting that the new Germany would be unlike the old one—a difficult task for many. That West Germany was a success and East Germany a dismal, expensive failure was obvious to all, however, including the Soviets. After the Wall fell, Gorbachev and others slowly came to accept the right of Germans to self-determination, and the facts that East Germans wanted unification and that the new German nationalism would be grounded in fifty years of democratic experience. The two Germanys reunified on October 3, 1990. In a further blow to Soviet solidarity, on February 19, 1991, Lithuania voted to become an independent nation.[76]

In July 1991, Bush arrived in Moscow to sign the START I treaty—the strategic arms reduction treaty that had been the subject of multiple negotiations and meetings since Reagan had first proposed it in 1983. Gorbachev, exhausted, left the capital early in August for his annual Crimean vacation. On August 18, his communication links were severed, and a delegation arrived at his dacha to inform him that he had been deposed. Over the next few days, however, the conspirators discovered to their chagrin that they

[75] Gaddis, *Cold War*, 244–246.
[76] Gaddis, *Cold War*, 246–247, 249–252; Leffler, *Soul of Mankind*, 431–448.

had neglected to secure the support of the police and the army, that the rest of the world was refusing to take them seriously, and that Russian president Boris Yeltsin had greater power than they did, or that Gorbachev had, for that matter. When Yeltsin climbed on a tank in Moscow to announce that the coup was a failure, it was done.[77]

President Bush and President Gorbachev sign START, Moscow, Russia, July 31, 1991. By Susan Biddle. Courtesy of NARA, George H. W. Bush Presidential Photographs.

Yeltsin abolished the Communist Party of the Soviet Union, confiscated its property, disbanded Gorbachev's Congress of People's Deputies, and recognized the independence of the Baltic States and several other republics. On December 8, 1991, Yeltsin signed an agreement with the Ukraine and Byelorussia to form the Commonwealth of Independent States and called Bush to inform him. Gorbachev protested, but then on Christmas Day he acknowledged reality by signing a decree that transferred the Soviet nuclear supply to Russia and abolished the Soviet Union. Without a pair of adversaries to confront each other around the globe any longer, with the Germanys reunified and European tensions diminished, with the failures of communism fully exposed, and with the Soviet Union dissolved, the Cold War truly was over.[78]

[77] Gaddis, *Cold War*, 256.
[78] Gaddis, *Cold War*, 256–257.

Part Four: Conclusion

FA Soviet I1-38 May, a naval reconnaissance and anti-ballistic submarine aircraft, closely shadows the USS Midway on cruise, May 18, 1979. The US and USSR conducted close-up reconnaissance missions, both to collect information and to remind the other they were always watching. Department of Defense photograph. Courtesy of NARA, Record Group 330.

In the United States, the trend toward "standing down" in response to Gorbachev's concessions had begun the previous year. On July 24, 1990, the Strategic Air Command's Looking Glass emergency airborne command post was taken off continuous alert. Beginning September 18, 1991, all Strategic Air Command bombers and the Minuteman II missiles were likewise removed from alert status. Between 1991 and 1997, the Minuteman II silos were deactivated and imploded. Minuteman IIIs will remain operational until 2029, when a new generation of ICBMs will replace them.[79]

At the beginning of the Cold War and the nuclear age, the chances that mankind would survive the next half-century appeared slim. The most-devastating war in human history had ended with the creation of the greatest weapon ever known. Its effects frightened everyone on either side of the Iron Curtain, because everyone knew that weapons were made to be used and because never yet had the fear of a weapon, much less human willpower, restrained men from waging war. The weapon itself was viewed and described in apocalyptic terms. Many scientists and ethicists believed that people had created something that outstripped their ability to control it. Science run amok became a recurring theme in popular literature, especially in American motion pictures.[80]

In addition, two diametrically opposed political systems each controlled atomic bombs and half the world. On the one side in the early years stood the United States and its allies, seemingly disorganized, with a variety of capitalist governments based on the will of their peoples. On the other side, under one of the most bloody-handed regimes in modern history, stood the Soviet Union and its supposedly monolithic communist empire. Each was engaged in a struggle for domination and survival, each wanted to outlast the other, and each waged a relentless race for arms superiority over the other. The result, in both countries, was the expenditure of enormous amounts of national treasure to construct complicated systems of aggression and defense. Each side used subterfuge to create uncertainty and fear to keep the other side guessing. The chances of a misstep that would be fatal to both sides seemed almost guaranteed.

However, it did not happen. In part this was because neither side was controlled by nihilists. Each wanted to outlive the other, knowing that any attempt to destroy the other would lead to self-destruction. Even when the threats seemed the greatest, each side trod carefully, not daring to push the other too far. Because luck (sometimes bad luck) can trump skill, however, leaders on both sides came to understand that the equation had to change, that a way had to be found out of the armament thicket that had grown out of control.[81]

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[79] Berhow, *Missile Systems*, 6, 63; Minuteman III operational end date changed from 2020 to 2029, "Air Force Kicks Off Program to Replace Minuteman III Missiles," *National Defense*, Aug. 2016, accessed Nov. 4, 2016, at https://www.jstor.org/stable/27021496?seq=1#metadata_info_tab_contents.

[80] Loeber, *Building the Bombs*, 35.

[81] Gaddis, *Cold War*, 262.

The USS Enterprise, USS Long Beach, and USS Bainbridge in the Mediterranean Sea, June 30, 1964. Department of Defense photograph. Courtesy of NARA, Record Group 428.

The Cold War ended because rational leaders became convinced that what people had created, they could also change. Pope John Paul II encouraged millions, regardless of national borders, to reject the idea that fear and brutality must always dominate the human spirit, and the people of Eastern Europe rose to his challenge. Ronald Reagan proposed a defense system that would logically lead to abolishing nuclear weapons altogether—an idea that even the Soviets could accept with some relief. Mikhail Gorbachev, the leader of one of Earth's most extensive empires, decided to dismantle that empire in the name of sanity and human survival. After almost five decades of living under the threat of nuclear annihilation, all of this had been accomplished without the strategic or tactical use of a single nuclear weapon. In a sense, then, although the Cold War ended with the bankruptcy of communism and the dismemberment of the Soviet Union, among mankind there were no losers.

Since then, debates have raged over just what brought the end of the arms race, the seemingly sudden collapse of the Soviet Union, and the end of the Cold War. Some have argued that Reagan's SDI and his hard-line approach to communism turned the tide, but SDI was confined to the drawing board and Reagan moderated his approach considerably after 1983. Others give most of the credit to Gorbachev and his reforms, which, once unleashed, took on a life of their own. Pope John Paul II and his spiritual leadership, as

well as the boldness of Dubček and Walesa and Havel, deserve their due. Then there were the nameless, courageous millions who marched, faced down tanks, broke through borders and demolished walls, put their lives on the line and told their erstwhile Soviet leaders that it was all over, that they no longer were believed, that they had no authority. Perhaps the answer is that all of these people and factors together created the perfect storm that blew down the Iron Curtain, rendered nuclear war between the powers impossible except by accident, and brought the Cold War to an end.[82]

There was hope, in the United States at least, of a "peace dividend"—that the end of the Cold War would enable the nation to refocus its treasure on domestic programs instead of weapons systems. It was not to be. The Cold War ended but not without consequences. Fifty years of fighting proxy wars that resulted in millions of deaths, interfering in the affairs of other nations, propping up tyrants for temporary and questionable gains, shuffling the distribution of political power, raising and then dashing hopes, suppressing dissent, creating powerful groups and cliques devoted to their interests at the expense of others—all practices that each side was guilty of at one time or another—left a legacy of resentment and frustration in many countries around the world. Many of our current conflicts, such as the 9/11 attacks and the resulting "war on terror," have their roots in the Cold War and can be considered as among its legacies.

[82] Beth A. Fischer, "US foreign policy under Reagan and Bush," in Leffler and Westad, *Cambridge History*, 3:267–288.

Timeline: The Cold War

1945

May 7: German military leaders surrendered to Western Allies at Rheims, France.
May 8: German military leaders surrendered to Soviets and Western Allies at Berlin, Germany.
July 3: Allied troops completed occupation of Berlin.
July 16: United States exploded first atomic bomb near Alamogordo, New Mexico, in a test code-named TRINITY.
July 17–August 2: President Harry S Truman, Prime Ministers Winston Churchill and Clement Atlee, and Soviet leader Josef Stalin met in Potsdam and refined postwar division of Europe.
August 6: U.S. dropped first atomic bomb on Hiroshima.
August 8: Soviet Union declared war on Japan.
August 9: U.S. dropped second atomic bomb on Nagasaki.
August 14: Japan surrendered.
August 26: U.S. announced its intention to occupy Japanese-held Korea south of the 38th parallel; Soviet Union to occupy the north.
September 2: Official end of World War II; start of Cold War
September 2: Ho Chi Minh's troops seized power in Hanoi and proclaimed an independent Vietnam.
September 22: French forces returned to Vietnam.
November 5: Communist Party won only 17 percent of the vote in Hungarian election. Stalin begins two-year move to eradicate opposition and consolidate Soviet position there.
November 29: Yugoslavia became a federated republic under Marshal Josef Tito.
1945–1946: America and Great Britain withdrew their troops from Iran; the Soviet Union did not.

1946

February 28: Secretary of State James F. Byrnes introduced new "get tough with Russia" policy at Overseas Press Club, New York.
March 5: Winston Churchill, in a speech at Westminster College, Fulton, Missouri, said that an "iron curtain" had descended across Europe.
March 21: Strategic Air Command, Tactical Air Command, and Air Defense Command were created within the Army Air Forces.
June 14: Bernard Baruch presented Truman's international atomic energy control plan to United Nations. Plan would place fissionable materials under control of a U.N. agency equipped with inspection powers and exempt from the great-power (Security Council) veto. Soviet Union objected to American domination of any U.N. agency and was unwilling to surrender its veto or accept inspection within the Soviet Union.
July 1: U.S. atomic bomb tests, using the Nagasaki-type implosion bomb, were held at Bikini Atoll, Marshall Islands.

August 1: Truman signs Atomic Energy Act, which created Atomic Energy Commission (AEC) and transferred nuclear weapons design and development from military to civilian control.
August 9: Yugoslav Air Force pilot shot down a U.S. Army Air Force C-47A transport over northern Yugoslavia. All crew and passengers survived and were soon released. Although many dozens of "attack" incidents involving U.S. aircraft occurred during the Cold War, this was the first of approximately forty actual "shootdowns" of U.S. aircraft.
September 20: Truman fired Secretary of Commerce Henry A. Wallace, a critic of Truman's foreign policy, especially in regard to the Soviet Union.
November 5: U.S. mid-term elections return Republican majorities to office, requiring more bipartisan support for Truman's foreign and domestic policies.
December 20: Viet Minh forces clashed with French forces in beginning of 8-year French Indochina war.

1947

March 12: Truman asked Congress to support "free peoples who are resisting attempted subjugation by armed minorities or outside pressures" (Truman Doctrine). Congress granted $400 million in aid to Greece and Turkey to defend against Communist influence.
April 16: Bernard Baruch popularized the term "Cold War" in a speech in South Carolina.
May 31: Communist government took over Hungary.
June 1947: *Bulletin of the Atomic Scientists* staff added the "Doomsday Clock" to cover of issue to illustrate the changing levels of danger in which mankind lives in the nuclear age.
June 5: Secretary of State George C. Marshall called on European nations to draft plan for European economic recovery and offered aid in planning and "later support" (Marshall Plan). Eastern Europe walked out of initial Paris meeting at Soviet behest. The following March, Congress voted to fund the Marshall Plan to aid 16 European nations.
July: George F. Kennan, writing anonymously in *Foreign Affairs*, articulated America's policy to block peacefully the expansion of Soviet political and economic influence into vulnerable areas around the world ("containment").
July 26: National Security Act created Department of Defense (as it was named in 1949) and several new agencies, including three separate departments of the Army, the Navy, and the new U.S. Air Force, National Security Council (NSC), Central Intelligence Agency (CIA), and the Joint Chiefs of Staff.
December 30: Romania's monarchy was replaced by a communist regime.

1948

During the year, Truman decided that both strategic and tactical nuclear weapons shall be under the direct control of the president as commander in chief, as set forth in the Constitution and the Atomic Energy Act (McMahon Act) of 1946; for the first time, battlefield commanders were denied the right to unilaterally decide to deploy a weapon.
February 25: Communist coup in Czechoslovakia.

March 17: Brussels Treaty, signed by Belgium, Britain, France, Holland, and Luxembourg, created an Atlantic regional mutual-defense pact, the Brussels Pact, partly in response to the Czechoslovakian crisis.
April 1: Soviet Union blockaded all highway, river, and rail traffic into Western-controlled West Berlin to force the Western powers out of Berlin. The West responded by airlifting supplies to West Berlin beginning June 21 and counter-blockading East Germany. The Soviet blockade ended after 321 days.
August 3: Whitaker Chambers accused Alger Hiss of having been a key member of the communist underground in Washington.
August 15: Republic of South Korea was founded.
September 9: The Korean People's Democratic Republic was founded in North Korea.
November 2: Harry S. Truman elected president.

1949

April 4: Belgium, Canada, Denmark, France, Great Britain, Iceland, Italy, Luxembourg, the Netherlands, Norway, Portugal, and the United States created the North Atlantic Treaty Organization (NATO) for mutual defense. Greece, Spain, Turkey, and West Germany later joined. In 1955, Soviet Union formed competing Warsaw Pact.
May 12: Berlin blockade ended.
August 29: The Soviet Union exploded its first atomic bomb in a desert in Kazakhstan.
September 3: During a Japan-to-Alaska reconnaissance flight, an Air Force WB-29 on patrol off Siberia detected evidence of the Soviet nuclear test.
September 21: German Federal Republic established as Allied High Commission relinquished control of the administration of the American, British, and French occupation zones.
September 23: Truman announced that the Soviet Union had exploded an atomic bomb sometime during the latter half of August.
October 1: People's Republic of China established.
December 7: The Chinese Nationalist government retired to Taipei, Taiwan.

1950

January 21: Alger Hiss convicted of perjury.
January 31: Truman approved the development of the hydrogen bomb.
February 7: The U.S. recognized the state of Vietnam and the kingdoms of Laos and Cambodia.
February 9: Senator Joseph P. McCarthy delivered speech to Republican Women's Club of Ohio County, Wheeling, West Virginia, in which he claimed to have a list of "known" Communists "making policy" in the State Department.
February 15: Sino-Soviet Pact created a bilateral defense commitment, settled historic territorial issues between China and the Soviet Union, and initiated modest program of Soviet aid to China.
April: NSC reappraised America's strategic position and redefined the Cold War as military rather than political, postulating a Soviet "design for world domination." NSC 68 called for both a buildup of nuclear weapons and for enlarged capacity to fight conventional wars whenever the Russians threatened "piecemeal aggression." It also

called for a reduction of social welfare programs and other services not related to military needs and for tighter internal security programs.
May 9: Truman announced U.S. military aid to French in Indochina.
June 25: North Korean troops crossed the 38th parallel in a surprise invasion of South Korea.
September 23: Congress passed McCarran Internal Security Act to monitor domestic communist activities.
October 19: Chinese units crossed the Yalu River into Korea.
December 23: U.S. signed a Mutual Defense Assistance Agreement with Vietnam.

1951

May 9: Atomic Energy Commission (AEC) exploded thermonuclear device at Enewetok, Marshall Islands.
May 27: Tibet ended resistance to Chinese takeover.
September 8: U.S. and Japan signed peace treaty with U.S. military presence for defense of Japan. U.S. also negotiated mutual security agreement with Philippines. Also with Australia and New Zealand (ANZUS Pact).

1952

June 14: Truman laid keel of USS *Nautilus*, first nuclear submarine.
November 1: AEC exploded hydrogen bomb at Enewetok, Marshall Islands.
November 4: Dwight D. Eisenhower elected president.

1953

January 20: Eisenhower inaugurated as president.
March 5: Josef Stalin died in Moscow.
March 15: Soviet MIG-15 fighters fired at U.S. WB-50 weather plane near the Kamchatka Peninsula.
July 27: Armistice was signed ending the Korean War. Korea remained divided at the 38th parallel, creating the DMZ (De-Militarized Zone).
August 1: U.S. Information Agency (USIA) was established to consolidate Voice of America, overseas libraries, etc., under one agency.
August 14: Soviet Union exploded a hydrogen bomb.

1954

January 12: Secretary of State John Foster Dulles announced U.S. commitment to the doctrine of "massive retaliation," to foreign and domestic criticism.
March 1: U.S. exploded hydrogen bomb in Marshall Islands (BRAVO); yield far greater than expected.
May 1: Soviet Union unveiled M-4, its first jet-propelled long-range bomber.
May 8: French army defeated in Vietnam at Dien Bien Phu.
May 30: First operational NIKE Ajax missiles deployed at Fort Meade, Maryland.
June: First Atlas intercontinental ballistic missiles (ICBMs) tested.

July 17–28: Geneva Accords ended French colonialism in Indochina; Vietnam divided at the 17th parallel.
August 24: Communist Party outlawed in U.S. as Eisenhower signs Communist Control Act.
September 7: Australia, Britain, France, Pakistan, the Philippines, Thailand, New Zealand, and the United States formed the Southeast Asia Treaty Organization (SEATO), an anticommunist alliance against "massive military aggression."
September 27: U.S. and Canada agreed to construct the Distant Early Warning (DEW) line of radar stations from Alaska across Canada to Greenland to warn of surprise attack.
October 13: U.S. approved production of first supersonic bomber, the B-58
October 23: West Germany invited to join NATO and became a member on May 5, 1955.
December 2: Senate condemned McCarthy, ending his influence.

1955

April 14: Nike Ajax missile at Fort Meade, Maryland accidentally launched, injuring one crewman; the missile fell apart in the air, causing no damage.
Mid-year: Nikita Khrushchev consolidated his power in the Soviet Union as Stalin's successor.
May 14: Warsaw Pact signed, calling for the mutual defense of Albania, Bulgaria, Czechoslovakia, East Germany, Hungary, Poland, Rumania, and the Soviet Union.
June 15: U.S. staged its first nationwide civil defense exercise.
June 29: B-52 intercontinental bomber deployment began in the United States.
July: Fear of a "Bomber Gap" ensued after Soviets flew Bear and Bison long-range bombers multiple times past American visitors at an air show, causing an exaggerated assessment of Soviet inventories.
July 18: Eisenhower, Khrushchev, and Eden discussed disarmament and European security at Geneva Summit Conference. Eisenhower proposed "Open Skies," which would allow aerial reconnaissance of each other's territories. Khrushchev refused to allow it.
July 31: DEW Line began operation in Alaska and Canada.
November 19: Baghdad Pact signed by Great Britain, Iran, Iraq, and Turkey. U.S. pledged military and political liaison.

1956

October 23–November 4: Hungarians revolted against communist rule and made futile pleas for U.S. assistance as Soviet forces crushed the resistance.
November 6: Eisenhower reelected.
November 17: "We will bury you" statement made by Khrushchev to Western diplomats.

1957

January 5: Eisenhower Doctrine presented to Congress, allowing the president to commit troops to the Middle East to thwart communist aggression there.

January 20: Eisenhower inaugurated president for a second term. He insisted on planning for total nuclear war (eventually called "mutual assured destruction"), rather than limited nuclear war, as a means of avoiding total war altogether because of the consequences for mankind.
March 25: Belgium, France, Italy, Luxembourg, the Netherlands, and West Germany agreed to form the European Economic Community (EEC), or the Common Market.
August 26: Moscow announced its first successful ICBM test.
September 19: First underground nuclear test took place in a mountain tunnel (Nevada Test Site) near Las Vegas.
October 4: Soviet Union launched Sputnik, first satellite to orbit Earth, prompting U.S. fears of a "missile gap."
November 3: Soviet Union launched Sputnik 2, which carried the first living creature (a dog) into space.
December 17: First successful test of Atlas ICBM.
December: Gaither Report to Eisenhower (in November) and to the NSC stated Soviet Union had achieved superiority in long-range ballistic missiles, adding to fears of a "missile gap." In reality, this gap did not exist.

1958

January 31: U.S. Army launched American satellite, *Explorer I*, into orbit.
March 5: Radar tracked first-known Soviet long-range bombers flying a reconnaissance mission over Alaska.
March 27: Khrushchev became Soviet Premier in addition to being First Secretary of the Communist Party.
March 30: Soviet Union suspended atmospheric nuclear testing.
May 22: Accidental explosion at Nike site NY-53 near Middletown, New Jersey destroyed 8 Nike Ajax missiles, killed 10 men, and injured 3 others.
June: First Titan I ICBM delivered; replaced Atlas missiles.
June 30: First U.S. Nike Hercules missile, with increased range capabilities, declared operational.
October 1: National Aeronautics and Space Administration (NASA) formally established.
October: U.S. and Britain suspended atmospheric testing.
November: Khrushchev delivered ultimatum: Begin East-West talks over the future of Germany (a reunified, neutral, denuclearized Germany) or face the permanent division of Germany; Khrushchev soon backed down.

1959

January 6: Fidel Castro, leader of the Cuban Revolution, became premier.
March: Nike Hercules batteries at Fort Richardson, Alaska, became operational.
April: Aleutian DEW Line stations became operational.
July 24: U.S. Vice President Richard M. Nixon visited the Soviet Union, took on Khrushchev in the "kitchen debate" (while the two were touring a model kitchen) on the merits of capitalism vs. communism.
September: First successful launch of Minuteman solid-fuel ICBM booster rocket.

September 9: Atlas ICBM became operational.
September 13: Soviet spacecraft reached the moon and crashed there.
September 15: Khrushchev visited United States, met Eisenhower at Camp David, and agreed to summit meeting in Paris, May 16, 1960.
December 1: Antarctica Treaty signed in Washington; 12 nations agreed to reserve Antarctica for scientific research, free from political and military uses.

1960

March: Eisenhower agreed to CIA proposal to train Cuban exiles to subvert Castro regime.
May 1: U-2 reconnaissance plane shot down over central U.S.S.R. Pilot Gary Powers held by the Soviet Union. Khrushchev announced incident on May 5, after Eisenhower has issued a contradictory statement, thereby catching the president in a falsehood.
May 16: East-West summit conference in Paris collapsed over U-2 incident.
May 24: U.S. launched *Midas II* satellite for military reconnaissance purposes.
July 20: U.S. fired first ballistic missile from a submerged submarine off Cape Canaveral.
August 19: U-2 pilot Gary Powers sentenced by the U.S.S.R. to ten years in prison; exchanged for a Soviet spy in 1961.
November 8: John F. Kennedy elected president.
December 20: Ho Chi Minh, leader of the Republic of Vietnam, organized the National Liberation Front of South Vietnam (NLF).

1961

January 3: Eisenhower Administration broke diplomatic relations with Cuba.
January 17: Eisenhower warned of potential "unwarranted influence . . . by the military-industrial complex" in his farewell address.
January 20: John F. Kennedy inaugurated as president.
February: First successful launch of complete Minuteman ICBM, at Cape Canaveral, Florida.
March 13: Kennedy proposed the Alliance for Progress, a 10-year plan of economic aid to Latin America.
April 12: Soviet astronaut Yuri Gagarin was the first man to orbit the Earth.
April 17: Bay of Pigs landing by more than 1,000 CIA-trained Cuban refugees failed in its attempt to "liberate" Cuba.
May 5: First American in space, Alan B. Shepard, made suborbital flight aboard a Mercury capsule.
May 11: Kennedy authorized American advisors to aid South Vietnam against the forces of North Vietnam.
May 25: Kennedy pledged to put man on the moon before decade ends.
June 3: Vienna Summit: Khrushchev reissued ultimatum to begin talks on Germany within 6 months or face a permanent division of Germany. Kennedy responded with call for military buildup.
August 11–20: The first successful recovery of an object from orbit occurred on Aug. 11, when a Corona spy satellite was retrieved. The first recovery of photographic film from

orbit occurred on Aug. 20. Corona was the code name for a satellite surveillance program aimed primarily at the Soviet Union and China, 1959–1972.
August 13: East Germany closed the Brandenburg Gate, sealing the border between East and West Berlin in preparation for building the Berlin Wall.
September 1: Soviet Union resumed atmospheric testing of nuclear weapons.
September 15: U.S. resumed underground testing of nuclear weapons near Carlsbad, New Mexico**.**

1962

January 29: East-West Conference on Banning Nuclear Weapons Tests, begun in October 1958, collapsed in deadlock at Geneva.
February 20: John Glenn became first American to orbit the Earth.
April 25: United States resumed atmospheric testing of nuclear weapons in Pacific Ocean near Australia.
July 23: Fourteen nations, including the United States and North Vietnam, sign an agreement recognizing the neutrality and sovereignty of Laos; North Vietnam later violated the agreement by establishing supply lines through Laos to aid the Viet Cong in South Vietnam.
October: Minuteman I became operational; ICBMs deployed in silos for blast protection.
October 14: U-2 flying over Cuba photographed Soviet bases capable of launching nuclear missiles against U.S. cities, precipitating the Cuban Missile Crisis.
October 22: Kennedy announced the naval "quarantine" of Cuba in response to the construction of Soviet missile bases there. Kennedy warned that a nuclear attack launched from Cuba would be considered a Soviet attack requiring full retaliation**.**
October 22: First flight of Minuteman ICBMs placed on operational alert at Malmstrom AFB, Montana.
October 28: Khrushchev agreed to remove offensive weapons from Cuba and the U.S. agreed to end Cuban-exile incursions and secretly to remove missiles from Turkey.
November 20: Kennedy announced end of Cuban blockade, satisfied that all bases were removed and that Soviet jets would leave the island by Dec. 20.

1963

April 10: Nuclear submarine USS *Thresher* sank during deep-diving tests about 200 miles east of Cape Cod after a pipe burst in the engine room.
June 10: Kennedy, in speech at American University, called for reconsideration of Cold War as "holy war."
June 20: "Hot Line" established as a direct teletype link between the White House and the Kremlin, to begin service on August 30; Kennedy called for a nuclear test ban treaty and announced US suspension of atmospheric nuclear testing.
June 26: Kennedy visits West Berlin, declared American solidarity with residents in "Ich bin ein Berliner" speech.
July 24: Cuba seized the U.S. embassy in Havana.
October 7: Kennedy signed Limited Test Ban Treaty. Britain, Soviet Union, and United States agreed to outlaw tests in the atmosphere, under water, and in outer space.
November 1: South Vietnamese President Ngo Dinh Diem assassinated.

November 22: President Kennedy assassinated; Vice President Lyndon B. Johnson became president.

1964

January 8: Lyndon Johnson called for war on poverty and greater efforts on civil rights in his first State of the Union Address.
July 2: Johnson signed Civil Rights Act of 1964.
August 2-5: North Vietnamese torpedo boats attack U.S. destroyer *Maddox* in the Gulf of Tonkin (Aug. 2), and a second attack on Aug. 4 (subsequently determined not to have occurred) prompts Johnson to retaliate with a bombing campaign (Pierce Arrow), Aug. 5.
August 7: Congress approved Gulf of Tonkin Resolution, which gave the President power to take "all necessary measures to repel any armed attack against the forces of the United States, and to prevent further aggression."
September 27: Warren Commission report on the assassination of President Kennedy released; confirms no Soviet involvement.
October 15: Khrushchev ousted, replaced by Leonid Brezhnev and Alexei Kosygin.
October 16: China detonated its first atomic bomb.
November 3: Lyndon B. Johnson elected president.

1965

March 8: First U.S. Marines in Vietnam waded ashore at Da Nang.

March 24: First antiwar "teach-in" held at University of Michigan.

April: Last Atlas ICBMs phased out; replaced by Minuteman missiles.

May 2: Johnson sent troops to the Dominican Republic to "prevent another Communist state in this hemisphere."

November: Battle of the Ia Drang Valley, the first major clash between the U.S. and the North Vietnamese Army.

November 29: Atomic Energy Commission conducted 80-kiloton underground nuclear test, Long Shot, the first of three on Amchitka Island, Alaska.

December 24: U.S. forces in Vietnam numbered 184,300.

1966

January: ICBM Minuteman II, with improved accuracy, entered service.
February: Senate hearings on the Vietnam War chaired by Senator J. William Fulbright began.
March 25: Anti–Vietnam War rallies staged in seven United States and European cities.
December: U.S. forces numbered 362,000 in Vietnam.

1967

January 27: Outer Space Treaty limited military uses of space, signed by the U.S., U.S.S.R., and 60 other nations.

February 14: Treaty of Tlatelolco, signed in Mexico by all Latin American states except Cuba, prohibited the introduction or manufacture of nuclear weapons.
June 8: Israeli Air Force and Navy vessels attacked USS *Liberty*, positioned off the Sinai Peninsula during the Six-Day War, killing 34 crewmen and wounding 171.
June 17: China exploded its first hydrogen bomb.
December: U.S. forces in Vietnam numbered 485,000.

1968

January: Alexander Dubček led Prague Spring reforms in Czechoslovakia to bring about "socialism with a human face."
January 23: North Korean naval forces captured USS *Pueblo*, which was gathering intelligence in international waters, and imprisoned Capt. Lloyd Bucher and crew for eleven months. *Pueblo*, on exhibit in Pyongyang today, was the only American naval vessel in captivity.
January 30: North Vietnamese and National Liberation Front troops launched Tet Offensive against South Vietnamese cities.
March 16: My Lai massacre in Vietnam.
March 31: Johnson halted bombing of North Vietnam (soon resumed) and announced that he will not seek re-election as president.
April 4: Martin Luther King Jr. assassinated.
May 22: Nuclear submarine USS *Scorpion* imploded and sank 400 miles southwest of the Azores, exact cause not known.
June 5: Robert F. Kennedy assassinated.
July 1: Nuclear Arms Nonproliferation Treaty signed by the United States, U.S.S.R., and 58 other nations.
August 20: Soviet invasion of Czechoslovakia ended Dubček experiment.
October 31: Johnson again halted bombing of North Vietnam, invited South Vietnam and the Viet Cong to Paris peace talks.
November 5: Richard M. Nixon elected president.
December: U.S. forces in Vietnam numbered 535,000.

1969

January 20: Richard M. Nixon inaugurated president.
March: U.S. bombing of Cambodia began.
June 8: "Vietnamization" (transfer of war effort from U.S. to South Vietnam government) began. Nixon ordered first troops out of Vietnam. U.S. forces numbered 475,200.
July: Nixon reaffirmed U.S. commitment to defend its allies but called on Third World nations to assume primary responsibility for their security (Nixon Doctrine).
July 20: Neil Armstrong and Edwin "Buzz" Aldrin landed on the Moon.
September 1: Muammar Khadaffi came to power after coup in Libya.
September 3: Ho Chi Minh, communist leader of North Vietnam, died.
November 15: March on Washington drew record 250,000 antiwar protesters.
November 17: Strategic Arms Limitation Talks (SALT) began between U.S. and U.S.S.R.

1970

February: Paris Peace Talks began between U.S. Secretary of State Kissinger and North Vietnamese diplomat Le Duc Tho.
March 5: Treaty on the Non-Proliferation of Nuclear Weapons between the U.S. and the Soviet Union went into effect, preventing transfer of nuclear weapons to nonnuclear nations or production of nuclear weapons in those nations.
April 29: U.S. troops invaded Cambodia.
May 4: Four Kent State University students killed by National Guardsmen while protesting Vietnam War.
May 15: Two Jackson State College students killed by police while protesting Vietnam War.
August: Minuteman III ICBM with multiple warhead capacity entered service in United States.
September 15: Nixon authorized U.S.-backed coup in Chile, according to a 1975 Senate Intelligence Committee report.
December: U.S. forces in Vietnam numbered 334,600.

1971

February 15: The *New York Times* began serial publication of the Pentagon Papers.
November 15: The People's Republic of China joined the U.N.

1972

February 21–28: Nixon visited China, pledged to withdraw U.S. forces from Taiwan.
May 8: Nixon ordered the mining of Haiphong Harbor and intensive bombing of all military targets in North Vietnam.
May 26: SALT I agreement signed restricting development of ABMs and freezing numbers of ICBMs and submarine-launched ballistic missiles (SLBMs) in place for 5 years.
May 29: Nixon and Brezhnev signed agreement on the "basic principles of détente" which produced a relaxation on the tensions, recognized the Soviet Union as the military-political policeman of Eastern Europe, and opened economic markets between the two countries.
June 17: Watergate burglary.
August 12: U.S. bombers delivered largest 24-hour bombing of the Vietnam War on North Vietnam.
October: Moscow Summit between Nixon and Brezhnev.
November 7: Nixon reelected.
December 13: Paris Peace Talks broke down.
December 17–30: Linebacker II bombing of Hanoi and North Vietnam.

1973

January 23: Nixon announced Vietnam War will end on January 28 and troops would be removed within 60 days.

January 27: Paris Accords established cease-fire and political settlement of Vietnam War.
March 29: Military Assistance Command Vietnam closed; last U.S. soldiers leave.
May 11: East and West Germany established formal diplomatic relations.
August 15: U.S. bombing of Cambodia ends.
September 11: Chilean Government of Salvador Allende overthrown in a violent coup. Allende dies.
October 17: Arab oil producers began embargo against the United States.
November 6: War Powers Act passed by Congress limited power of president to wage undeclared wars.

1974

March 1: Indictment returned against seven former presidential aides in the Watergate conspiracy. Nixon named an unindicted co-conspirator.
March 18: Arab oil embargo ended.
May 9: House Judiciary Committee opened presidential impeachment hearings.
May 18: India announced it has held an underground nuclear test.
July-August: Howard Hughes's *Glomar Explorer*, operating under the cover story of marine mining, successfully raised part of the Soviet nuclear submarine K-129, which sank in April 1968.
July 27: House Judiciary Committee voted to recommend Nixon's impeachment.
August 8: Nixon announced that he will resign the next day.
August 9: Gerald Ford sworn in as 38th President.

1975

April: U.S. deployed Safeguard, an antiballistic missile (ABM) system, at Grand Forks Air Force Base, North Dakota.
April 12: United States ended official presence in Cambodia as Marines evacuate diplomats in wake of Khmer Rouge victory.
April 30: Saigon fell to North Vietnamese troops as Americans evacuate.
May 14: Ford ordered rescue of cargo ship captured by Cambodian Khmer Rouge (the *Mayaguez* incident).
July 17: U.S.–Soviet astronauts in *Apollo and Soyuz* spacecraft linked up in space.
July: Helsinki Accords signed, pledging the United States and Soviet Union to accept European borders, protect human rights, and promote freer transnational trade and cultural exchanges.

1976

May 28: U.S. and Soviet Union signed treaty limiting size and nature of underground nuclear tests.
July 2: Socialist Republic of Vietnam proclaimed.
September 9: Mao Zedong died, setting off succession struggle in China.
November 2: Jimmy Carter elected President.

1977

February 24: Carter announced linkage of foreign aid to human rights.
July 18: Vietnam admitted to U.N.

1978

April 7: Carter announced postponement of neutron bomb production.
May 30: Carter recommended that NATO modernize and increase alliance's military forces. Signals end of détente.
September 17: Camp David Accords signed between Egypt and Israel, with Carter's assistance, setting timetable to end the 30-year state of war between Israel and Egypt in exchange for Israel's return of Sinai to Egypt.
October 16: Polish cardinal Karol Wojtyla elected pope, the first Slavic pope in history; adopts the name John Paul II. His election shocked and alarmed Soviet leaders.
December 15: United States and China announced restoration of full diplomatic relations on January 1, 1979.

1979

January 16*:* Shah of Iran fled Iran and Ayatollah Khomeini returned from exile to establish fundamentalist Shiite government in Iran on February 26.
March 26: Menachem Begin of Israel and Anwar Sadat of Egypt signed Camp David Peace Treaty in White House ceremony.
May 4: Margaret Thatcher became British prime minister.
June: Pope John Paul II made triumphal visit to Poland, igniting nationalist and religious fervor that highlighted the moral bankruptcy of communism.
June 18: SALT II agreement to limit long-range missiles and bombers signed by Carter and Brezhnev.
November 4: Iranian militants seized U.S. Embassy in Teheran, took 63 Americans hostage, and demanded return of Shah of Iran, then in United States for medical treatment.
December 4: Carter called for a major military buildup to counter Soviet military power.
December 20: Soviet army invaded Afghanistan. U.S. sanctions against the U.S.S.R. included a grain embargo, decreased scientific and cultural exchanges, a boycott of the 1980 Moscow Olympic Games, and failure to ratify SALT II.
December: NATO announced "Dual-Track" deployment of intermediate-range nuclear forces (INF) in Europe to counter Warsaw Pact SS-20 missiles.

1980

January: Carter Doctrine called Persian Gulf a U.S. "vital interest."
April 24: U.S. military failed in attempt to rescue Iranian hostages; eight servicemen die in helicopter crash.
July: Carter signed Presidential Directive 59 calling for capacity to wage limited and protracted nuclear war.

September 19: Missile explosion in the silo at Titan II Launch Complex 374-7, Van Buren County, Arkansas, killed one airman and injured another.
September 22: Solidarity labor union formed in Poland under leadership of Lech Walesa.
November 4: Ronald Reagan elected president.

1981

January 20: Reagan inaugurated as Iranians release hostages.
January 26: Walesa led Polish workers in illegal strike for 5-day workweek.
March 30: John Hinckley shot Reagan in assassination attempt; Reagan had surgery and survived.
May 13: In St. Peter's Square, Mehmet Ali Agca shot Pope John Paul II, who survived; assassination attempt quickly linked to Bulgarian intelligence, and Soviet complicity was strongly suspected.
November: Protest over NATO INF deployment drew 400,000 in Amsterdam.
November 18: Reagan proposed significant reductions in strategic forces, called the "zero option," which would eliminate an entire class of nuclear missiles.
December 13: Martial law imposed in Poland.

1982

May 9: Reagan outlined U.S. Strategic Arms Reduction Treaty (START) proposal, to reduce the number of ICBMs and arrive at verifiable agreement to reduce risk of war and number of strategic nuclear weapons on both sides.
June 12: New York march against nuclear arms attracted 800,000 protestors.
June 29: START negotiations opened in Geneva.
November 10: Leonid Brezhnev died.
November 12: Yuri Andropov, former head of the KGB, succeeded Brezhnev as General Secretary of the Soviet Union.

1983

March 23: Reagan proposed SDI (Strategic Defense Initiative, popularly known as Star Wars) to develop technology to intercept enemy missiles.
April 6: Scowcroft Commission Report called for modernizing U.S. strategic weapons, undertaking negotiations leading to balanced arms control agreements with meaningful, verifiable reductions.
May 24: Congress authorized MX missile procurement and development.
July 21: Poland lifted martial law.
September 1: Korean Air Flight 007 shot down by Soviet jet fighter in Soviet airspace. All 269 aboard killed.
October 23: Terrorists attacked U.S. Marine headquarters in Beirut, Lebanon, killed 241.
October 25: United States invaded Grenada.
November 22: U.S. began deployment of INF missiles (Pershing II) in West Germany after protracted political fight.

December 28: U.S. withdrew from UNESCO (United Nations Educational, Scientific, and Cultural Organization), charging mismanagement and political bias.
December: Soviet Union suspended START talks.

1984

February 7: American Marines withdrew from Lebanon.
February 9: Yuri Andropov died.
February 13: Konstantin Chernenko succeeded Andropov as General Secretary of the Soviet Union.
September 20: U.S. Embassy in Beirut bombed, killing 12.
September 24: Reagan proposed to U.N. General Assembly a broad "umbrella" framework for U.S.-U.S.S.R. arms talks.
November 6: Reagan reelected.
November 22: U.S. and U.S.S.R. agreed to new negotiations on nuclear and space issues.

1985

March 10: Konstantin Chernenko died.
March 13: Mikhail Gorbachev succeeded Chernenko as General Secretary.
March 12: Nuclear and Space Talks (NST) opened in Geneva, based on START proposals of 1983.
September 30: Soviet Union presented START proposal, which accepted for the first time the principle of deep reductions in strategic offensive forces.
November 1: U.S. countered with new START proposal.
November 21: At the Geneva Summit, Reagan and Gorbachev issued joint statement on cooperation in arms reductions with goal of 50 percent reductions of nuclear arms.

1986

January 15: Gorbachev proposed eliminating all nuclear weapons over next 15 years, contingent on United States backing off SDI. Reagan applauded proposal but would not change position on SDI and supported principle of 50 percent reduction as agreed to in 1985.
April 11: U.S. launched air strike against Libya in retaliation for Libyan terrorist acts.
April 26: Explosion and fire at Chernobyl nuclear power plant in the Soviet Union spread radiation over large area.
October 11–12: Gorbachev-Reagan arms talks stalled at the Reykjavik Summit in Iceland over Reagan's refusal to limit SDI research and testing to the laboratory although agreement is reached on other details.
November 4: First press revelations of the Iran-Contra scandal, in which Reagan Administration sold arms to Iran and used the proceeds to finance Nicaraguan Contra rebels.
December 22: Peacekeeper ICBM became operational.

1987

January 1: Gorbachev addressed Soviet citizens on arms race and threat of war. Reagan addressed the Soviet people via Voice of America, saying that the United States and Soviet Union are "closer now than ever before . . . to agreement to reduce nuclear arsenals and have taken major steps toward permanent peace."
May 5: Last Titan ICBM Wing removed from alert status as the MX Peacekeeper entered operation.
August 26: West German Chancellor Helmut Kohl stated that Germany will destroy its Pershing missiles if United States and U.S.S.R. agree to destroy intermediate-range nuclear missiles.
September 15: Nuclear Risk Reduction Center Agreement signed by the United States and the Soviet Union to promote communication and confidence-building measures.
December 7–10: At the Washington Summit Meeting, Reagan and Gorbachev signed a treaty eliminating INF and agreed to work toward completing START agreement, if possible, for Moscow meeting in first half of 1988.

1988

January 14: NST resumed in Geneva with the United States and U.S.S.R. working on a joint draft START treaty.
March 15: Oliver North, former National Security Advisor John M. Poindexter, and Iranian-American arms dealer Albert Hakim indicted on charges of diverting Iranian arms sales proceeds to Nicaraguan Contras.
April 15: Soviet Union agreed to withdraw its forces from Afghanistan by February 15, 1989, after seven years of peace talks.
May 29–June 1: At the Moscow summit, Reagan and Gorbachev reiterated their commitment to concluding the START treaty.
June 28: Gorbachev told Communist Party leaders that key elements of Communist doctrine were outdated; defended his proposals for change. Party attempted to relax its grip on Soviet society in order to advance Gorbachev's *Glasnost* policies.
August 16: Pro-Solidarity strikes occurred in Poland. Demonstrators demanded that government grant legal status to the union.
August: War in Angola ended, Cubans withdrew from Angola, South Africa from Namibia.
November 8: George H. W. Bush elected President.

1989

April 5: Poland agreed to legalize Solidarity union.
April 17: "Pro-democracy" demonstrations began in Beijing.
May: Gorbachev visited Beijing to normalize relations with China.
June 3–4: Chinese army assaulted prodemocracy students in Tienanmen Square. Hundreds of students killed.
September 22–23: Reciprocal Advance Notice of Major Strategic Exercises Agreement signed as part of the Wyoming Ministerial by the United States and U.S.S.R. to prevent inadvertent conflict arising from provocative military exercises.

September-December: Eastern European nations left Soviet Bloc, renounced ties to Moscow.
November 9: Berlin Wall opened as hundreds of thousands of East Germans stream into West Berlin to visit without restrictions.
November 10: Bulgarian president Todor Zhikov resigned after 35 years of hard-line communist power.
December 2–3: Bush proposed the acceleration of START negotiations.
December 20: United States invaded Panama.
December 22: The Romanian army overthrew President Nicolae Ceausescu; three days later he and his wife were executed.

1990

February 26: Nicaraguan president Daniel Ortega conceded defeat for his Sandinista Front in popular elections, ending one-party Marxist rule of Nicaragua.
March 18: East German voters opted for German reunification and market-based economy.
May 30–June 3: Washington**,** D.C., summit meeting between Bush and Gorbachev.
July 24: SAC took National Emergency Airborne Command Post ("Looking Glass") aircraft off continuous alert duty.
August 2: Iraq invaded Kuwait.
September 3: U.S. sent combat aircraft to the Middle East to help defend Saudi Arabian allies from Iraq.
October 3: Two Germanys reunified into one nation.
November: Treaty of Conventional Armed Forces in Europe cut East-West land armies.
November 28: Margaret Thatcher resigned as British prime minister.
December 12: Lech Walesa elected President of Poland.

1991

January 16: U.S. and international coalition attacked Iraq in Gulf War.
March 3: Iraq accepted cease-fire terms.
July 31: Bush and Gorbachev signed START treaty, pledging to destroy thousands of strategic nuclear weapons.
August 18–21: Coup attempt against Gorbachev failed, but power shifted to Russian president Boris Yeltsin, who mounted a tank to denounce the coup.
September 18: All SAC bombers, tankers, and Minuteman II ICBMs removed from alert. Minuteman IIIs, Peacekeepers, and Navy SSBNs remained on alert.
October: Gorbachev and Bush agreed to major unilateral cuts in nuclear arms.
December: Commonwealth of Independent States created in the former Soviet Union.
December 25: Gorbachev resigned as Soviet president and transferred control of nuclear arsenal to Yeltsin. U.S. recognized six independent republics: Armenia, Belorussia, Kazakhstan, Kirghizia, Russia, Ukraine. The Soviet Union no longer existed.

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National Historic Landmarks Evaluation Guidance

During the Cold War, the United States developed increasingly powerful nuclear weapons and more efficient and accurate delivery systems including aircraft, missiles, and submarines. Testing and production facilities likewise grew in complexity and size. To defend the nation, sophisticated early warning radar stations, surface and embedded missile sites, protected command and control centers, and large flight training centers were created and expanded. In addition, each President of the United States adopted and refined strategies for dealing with the Soviet threat: containment, tactical nuclear weapons, mutual assured destruction, détente, and the Strategic Defense Initiative or "Star Wars," among others. The threats, the defenses, and the strategies all interacted to create an environment of resource types constructed to meet the nation's needs.

When considering these resources, assessing relative degrees of significance and historic integrity are integral to evaluating potential candidates for NHL nomination. The purpose of this section is to assist agencies and individuals in evaluating properties related to the Cold War for designation as NHLs.

In most instances, a potential Cold War–related NHL must have a direct and meaningful documented association with a nationally significant event or individual. In every instance, a nominated property must be evaluated in comparison to other properties associated with similar events or persons to determine their relative significance and integrity.

When evaluating properties for national significance, consideration must be given to determining an event's impact or influence. While many individuals, institutions, and organizations played important roles in the history of the Cold War at the local, state, and regional level, comparatively few possess exceptional value or quality in illustrating or interpreting Cold War history. An argument must effectively show that the significance ascribed to a property was not only national, but also exceptional within its historic context. This association must have been established between the beginning of the Cold War (approximately at the end of World War II) and December 25, 1991, when Mikhail Gorbachev signed the document officially disbanding the Soviet Union.

National Historic Landmarks Criteria

National Historic Landmarks criteria (36 CFR part 65.4 [a & b]) are used to describe how properties are nationally significant for their association with important events or persons.[83] According to the criteria, the quality of national significance can be ascribed to districts, sites, buildings, structures, and objects, that:

[83] National Historic Landmarks designation and National Register listing is confined to historic properties, but a study of the Cold War may identify historic documents and artifacts that are also worthy of preservation.

- possess exceptional value or quality in illustrating or interpreting the heritage of the United States in history, architecture, archeology, engineering, and culture; and

- possess a high degree of integrity of location, design, setting, material, workmanship, feeling, and association, and meet at least one of the following NHL criteria:

Criterion 1: Are associated with events that have made a significant contribution to, and are identified with, or that outstandingly represent, the broad national patterns of United States history and from which an understanding and appreciation of those patterns may be gained; or

Criterion 2: Are associated importantly with the lives of persons nationally significant in the history of the United States; or

Criterion 3: Represent some great idea or ideal of the American people; or

Criterion 4: Embody the distinguishing characteristics of an architectural type specimen exceptionally valuable for a study of period, style, or method of construction, or that represent a significant, distinctive, and exceptional entity whose components may lack individual distinction; or

Criterion 5: Are composed of integral parts of the environment not sufficiently significant by reason of historical association or artistic merit to warrant individual recognition but collectively compose an entity of exceptional historical or artistic significance, or outstandingly commemorate or illustrate a way of life or culture; or

Criterion 6: Have yielded or may be likely to yield information of major scientific importance by revealing new cultures, or by shedding light upon periods of occupation of large areas of the United States. Such sites are those which have yielded, or which may reasonably be expected to yield, data affecting theories, concepts, and ideas to a major degree.

Any NHL designated under this context must have a nationally significant association with one or more of the important topics discussed in this theme study. In addition to confirming national significance and a high degree of integrity, securing owner support for the nomination of a property is sometimes challenging.

The following section provides guidance on relevant NHL criteria and themes with which potential Cold War–era NHLs might be associated. Examples of already designated NHLs, and their association with the Cold War, also are given. Particular attention has been paid to those associated property types identified in the theme study's enabling legislation, which relate to national defense. These include intercontinental ballistic missiles, flight training centers, manufacturing facilities, communications and command centers, defensive radar networks, nuclear weapons test sites, and strategic and tactical aircraft. In addition, this section identifies several other categories of properties that could

possess nationally significant associations with the Cold War. These additional associated property types most often relate to such areas as: research, development, testing and production; government and politics; espionage; and social/cultural reactions to living during the Cold War. The following section mentions already designated NHL and non-NHLs related to each of these areas. It is important to note that mention in this study does not indicate that a preliminary assessment of NHL potential has been completed. In many instances, properties were selected for mention because they served to illustrate particular NHL evaluation issues that may arise when considering other Cold War properties. Before the appropriateness of actual NHL nomination can be considered, the properties mentioned below will require preliminary consideration of their individual historical associations, their relative historical merit among properties representing related nationally significant associations, and consideration of whether they retain a high degree of historic integrity. The evaluation guidance provided in this section should inform those preliminary assessments, as well as the preparation of formal NHL nominations. It should also be noted that the Cold War properties not mentioned below may be worthy of NHL consideration.

Criterion 1:

To be eligible for designation under this criterion, properties must have played a central role in an important moment in American history or must have been importantly associated with a pattern of events that had a major impact on the development of the United States. Criterion 1 will likely apply to most, if not all, Cold War–related NHLs, and may be one among multiple NHL criteria met by a particular Cold War property.

Properties associated with national defense during varying cold and hot portions of the Cold War might include important ICBM launch facilities, major military command and control centers, or vessels and aircraft that importantly engaged the enemy during hotter phases of the Cold War.

- An Atlas ICBM missile launch facility is an example of a potential missile-related NHL. These facilities are associated with the first generation of ICBMs, which became operational starting in 1959. ICBMs represented a major leap in Cold War technology because their long range allowed them to be securely based in the home country, and they were able to quickly deliver nuclear warheads to an enemy target on a different continent. The race to make them more powerful, more accurate, and more plentiful, made ICBMs the Cold War's primary weapon on either side of the Iron Curtain because the targeted country had essentially no way to prevent these powerful weapons from reaching their targets. Few early ICBM facilities survive with much integrity, and those few that retain a high degree of integrity may be worthy of NHL consideration.

- A major command and control facility example is the North American Aerospace Defense Command's (NORAD) Cheyenne Mountain Complex, outside Colorado Springs, CO. This facility was carved deep into a granite mountain to protect vital Air Force command and control functions from nuclear blasts. Massive steel doors minimize blast impacts, as do mounting free-standing "buildings" within

the mountain on large shock-absorbing springs. Operational by the mid–1960s, its self-contained environmental systems were designed to allow the command and control functions to operate during and after a nuclear attack.

- Some Air Force aircraft were another command and control type, used as part of Operation Looking Glass. Beginning in 1961 and continuing for nearly thirty years, specially-outfitted EC-135 planes were always airborne, and if command and control facilities such as Cheyenne Mountain were compromised, a general aboard the "Doomsday Plane" was authorized to initiate retaliatory nuclear strikes under certain circumstances. If one of these former airborne command posts meet established integrity requirements for aircraft, it may be worthy of NHL nomination.

Each of these properties may possess nationally significant associations with the United States' national defense efforts. Further investigation would be necessary to confirm whether any meet NHL requirements.

A property already designated an NHL within this context is:

- Pentagon, Arlington, VA (NHL 1992)—The epitome of command and control operations, the Pentagon was built during World War II and has since housed the headquarters of the Department of Defense. As such, the building was involved in most major and routine Cold War events.[84]

Properties associated with research, development, testing, and production might include facilities where nuclear, chemical or biological weapons were studied, developed and tested.

- The Nevada Test Site, Nye County, NV, was where 90% of the United States' 1,000 underground and atmospheric nuclear test detonations were conducted, as evidenced by the otherworldly look of its scarred landscape. Further investigation can indicate how much of the massive site (larger than the state of Rhode Island) may meet NHL requirements. One Nevada Test Site property is the 320-foot deep, 1,280-foot diameter Sedan Crater. It was created by a 1962 detonation conducted as part of President Eisenhower's Atoms for Peace program promoting non-military uses of atomic energy. This detonation tested the feasibility of using nuclear detonations to move earth in large construction projects.

- The One-Million-Liter Test Sphere at Frederick, MD's Fort Detrick is a 40-foot diameter steel structure used to study highly infectious agents in aerosol form. The gas-tight sphere operated during the 1950s and 1960.

Properties already designated as NHLs within this context include:

- White Sands V-2 Launching Site, White Sands Missile Range, NM (NHL

[84] https://catalog.archives.gov/id/41678991.

1985)—The V-2 Launching Site, with its gantry crane and sturdy blockhouse, supported post-World War II tests of captured German V-2 rockets, and tests of the Army's own experimental missiles.[85]

Army blockhouse and V-2 gantry crane at Launch Complex 33, White Sands Missile Range, New Mexico, 1984. Courtesy of LOC P&P, HAER NM-1-B-1.

- Space Launch Complex 10, Lompoc, CA (NHL 1986)—Starting in 1959, Space Launch Complex 10 at Vandenberg Air Force Base was a test site for the Thor missile, the first operational intermediate range ballistic missile (IRBM).[86]

- Rogers Dry Lake, Kern and San Bernardino counties, CA (NHL 1985)—At the Rogers Dry Lake, the twelve-mile-long by five-mile-wide clay surface lake bed is unusually hard, allowed military (and NASA) test flights of even the heaviest experimental aircraft before, during, and after the Cold War. [87]

Potential NHLs associated with government and politics may include elaborate or ordinary properties where highly consequential Cold War events occurred.

[85] https://catalog.archives.gov/id/77846981.
[86] https://catalog.archives.gov/id/123858095.
[87] https://catalog.archives.gov/id/123857909.

- Building 9400, a nondescript concrete block building at the Army's Camp Evans in Wall Township, NJ, was where overseas seismic monitoring data of Soviet and Chinese nuclear testing was gathered. This building might be nationally significant for its role in nuclear test monitoring, and possibly for its association with the political clash between Senator Joseph McCarthy and the U.S. Army. As part of his quest to root out communists he believed worked for the Army, Senator McCarthy toured Camp Evans in 1953. When security guards did not allow his staffer, Roy Cohn, to accompany the elected officials into the highly secure building, this exclusion further fueled their anger with the Army. The senator's overzealous investigations initiated his decline during the televised McCarthy/Army hearings, when Americans were left to draw their own conclusions when Senator McCarthy was asked, "Have you no sense of decency?"

Other examples within this context might include secret continuity-of-government sites where key government officials would be sheltered during a nuclear attack.

- One of the largest and most important of these sites was so well hidden in plain sight that it was designated an NHL during the Cold War without any knowledge of its major Cold War historical significance. When designated in 1990 (under the themes of architecture and recreation), the 1950s additions to West Virginia's Greenbrier Hotel were understood to provide routine additional hotel and conference space, but their actual purpose of providing emergency living and meeting facilities for the U.S. Senate and House of Representatives was a highly classified secret.

- Two smaller evacuation bunkers for short-term use were built near President Kennedy's vacation homes, one in Nantucket, MA, the other in Palm Beach, FL. These bunkers were Quonset Huts buried under twelve feet of sand, lead, and concrete. Their design was based on bunkers that survived nuclear tests at the nation's nuclear detonation test site in Nevada.

- Around that same time, a series of secret facilities were built in Washington, Virginia, Maryland, and southern Pennsylvania to facilitate White House communications during an emergency, and to provide additional underground evacuation spaces for administration officials.

Individual assessments of the relative significance and integrity of these and other government facilities would need to be completed to determine whether they are worthy candidates for NHL nomination.

Properties already designated as NHLs within this context include: the White House and the U.S. Capitol, in Washington, DC; Westminster College Gymnasium, in Fulton, MO; and Whittaker Chambers Farm, in Westminster, MD.

- White House, Washington, DC (NHL 1960) and United States Capitol, Washington, DC (NHL 1960)—While the White House and United States Capitol

have direct associations with the Cold War, they both became NHLs only fifteen years into the Cold War. Those 1960 designations focused on their older associations and did not consider Cold War associations.[88]

- Westminster College Gymnasium, Fulton, MO (NHL 1968)—Nevertheless, only eight years later, the Westminster College Gymnasium was designated precisely for its Cold War association. Six months after the end of World War II, then former British prime minister Winston Churchill gave a speech that many believe marks the beginning of the Cold War. Churchill warned those in attendance (including President Truman), and people everywhere who learned of this famous speech, that the world was undergoing a major change because an Iron Curtain had descended on Europe.[89]

There are numerous properties associated with Cold War–era foreign espionage, intelligence gathering, and U.S. national security covert activities.

- Before the Central Intelligence Agency moved to Langley, VA, in 1961, it operated out of a group of buildings off E Street in Washington's Foggy Bottom neighborhood.

- Formerly secret espionage-related buildings in Washington, DC, include Rock Creek Park's historic Pierce Mill barn. Its attic was used by the FBI for electronic surveillance of nearby Soviet Bloc embassies.

- In the vicinity of Miami, FL, the CIA supported several training facilities and safe houses for Cuban exiles seeking to destabilize Fidel Castro's government.

- Vint Hill Farms Station, in Fauquier County, VA, served as a signal intelligence facility during World War II and the Cold War.

An NHL designated within the context of Cold War politics and espionage is:

- Whittaker Chambers Farm, Westminster, MD (NHL 1988)—Former communist spy Whittaker Chambers concealed the infamous "Pumpkin Papers" at his Maryland farm. A hollowed-out pumpkin was where Chambers hid 35mm film negatives of documents State Department official Alger Hiss gave him before World War II. Young congressman Richard Nixon's pursuit of this issue from his seat on the House Un-American Activities Committee helped win him a national reputation as Cold Warrior, and eight years as Eisenhower's vice president. The Hiss/Chambers case remained politically polarized throughout the Cold War, as was this NHL nomination. The fact that the NHL study of the less-than-fifty-year-old historical association was initiated directly by the Secretary of the Interior, and designated against the recommendation of his National Park System Advisory Board, highlights the challenges sometimes presented before sufficient time

[88] https://catalog.archives.gov/id/117691895; https://catalog.archives.gov/id/117691909.
[89] https://catalog.archives.gov/id/63818142.

passes to allow historical perspective to temper passionately held political perspectives.[90]

Properties associated with social/cultural reactions to living during the Cold War could include private and public bomb shelters, and efforts to signal support or opposition to governmental Cold War policies.

Properties associated with the efforts of the House Un-American Activities Committee to root out disloyalty would fall under this category, as would properties associated with efforts to protect threats to civil liberties from governmental overreach.

- The "Ban the Bomb" movement, a leader of which was Nobel Prize-winning chemist Linus Pauling, is one example of an important social reaction to the Cold War. Pauling received a second Nobel Prize (the Peace Prize) for his efforts to ban the testing of nuclear weapons. A property importantly associated with his efforts might be a good candidate for NHL nomination.

An NHL that was designated for its association with major Cold War–era protests is the May 4, 1970, Kent State Shootings Site, Kent, OH (NHL 2016), where Ohio National Guardsman shot and killed four students during an antiwar protest and wounded nine others. The tragic event increased public opposition to the largest of the Cold War proxy wars.[91]

Criterion 2:

Properties designated as NHLs under this criterion must be associated importantly with individuals who played central roles in the Cold War. Their impact must be demonstrated to be directly and importantly associated with major Cold War activities. Nationally significant associations related to NHL Criterion 2 often meet NHL Criterion 1 as well, and sometimes a stronger (or more straightforward) case may be made by nominating under Criterion 1 alone. A property strongly associated with an individual's nationally significant activities is usually a stronger candidate for NHL designation than their home.

Properties associated with nationally significant people likely to be eligible within the context of Cold War research, development, testing, and production might include scientists, engineers, military figures, and industrialists. For example, a property importantly associated with physicist Edward Teller's work on the development of the hydrogen bomb, or with physicist Werner von Braun's work on the Redstone and Saturn rockets, might be nationally significant within this context. No properties associated with an individual's nationally significant Cold War research, development, testing, or production activities have yet been designated under this criterion.

People whose associated properties are likely to be eligible within the context of carrying out the national defense, or government and politics, might include political and military leaders. For example, several properties associated with Cold War–era presidents have

[90] https://catalog.archives.gov/id/106775940.
[91] A digital file of this NHL nomination is not yet available online.

already received NHL designation (and/or establishment as a unit of the National Park System), including:

- Harry S Truman Historic District, Independence, MO (NHL 1971)[92]
- Harry S Truman National Historic Site, Independence, MO (NHS 1982)[93]
- Harry S Truman Farm Home, Grandview, MO (NHL 1985)[94]
- Dwight D. Eisenhower Farmstead, Gettysburg, PA (NHL 1966)[95]
- Eisenhower National Historic Site, Gettysburg, PA (NHS 1967)[96]
- John F. Kennedy Birthplace, Brookline, MA (NHL 1964)[97]
- John Fitzgerald Kennedy National Historic Site, Brookline, MA (NHS 1967)[98]
- Kennedy Compound, Hyannis Port, MA (NHL 1972)[99]
- Lyndon Baines Johnson Boyhood Home, Johnson City, TX (NHL 1966)[100]
- Lyndon B. Johnson National Historic Site, Johnson City, TX (NHS 1969; redesignated a NHP in 1980)[101]
- Jimmy Carter National Historic Site, Plains, GA (NHS 1987)[102]

Other presidential-related properties that are not designated, but might have nationally significant Cold War associations include:

- La Casa Pacifica, Richard M. Nixon's San Clemente, CA, home
- Rancho del Cielo, Ronald Reagan's Santa Ynez, CA, ranch
- George Herbert Walker Bush's Kennebunkport, ME, home
- Camp David, near Thurmont, MD

In most instances, high-level military and governmental officials are not nationally significant in their own right, unless analysis demonstrates otherwise.

- Careful analysis might demonstrate that the individual historical significance of Robert McNamara, Secretary of Defense under presidents Kennedy and Johnson (1961-1968), rises above most other cabinet-level officials due to his key role in expanding United States involvement in Vietnam.

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[92] A digital file of this updated NHL nomination is not yet available online.

[93] A digital file of the National Register documentation for this unit of the National Park System can be found at https://catalog.archives.gov/id/63819469.

[94] https://catalog.archives.gov/id/63818151.

[95] https://catalog.archives.gov/id/71994195.

[96] A digital file of the National Register documentation for this unit of the National Park System can be found at https://catalog.archives.gov/id/71995194.

[97] https://catalog.archives.gov/id/63793813.

[98] A digital file of the National Register documentation for this unit of the National Park System can be found at https://catalog.archives.gov/id/63796454.

[99] https://catalog.archives.gov/id/63793631.

[100] https://catalog.archives.gov/id/40970907.

[101] A digital file of the National Register documentation for this unit of the National Park System can be found at https://catalog.archives.gov/id/40971320.

[102] No National Register documentation has been prepared for this unit of the National Park System.

- By comparison, the individual historical significance of Dean Rusk, who served as Secretary of State under presidents Kennedy and Johnson during this same period (1961-1969), appears to possess the more usual level of historical significance associated with cabinet officers, and thus would not be eligible under NHL Criterion 2.

- Rusk's eventual successor, Henry Kissinger, national security advisor (1969-1975) and Secretary of State (1973-1977) under presidents Nixon and Ford, offers more compelling justifications for national significance. Kissinger was more consequentially involved in formulating and carrying out U.S. foreign policy during these periods of the Cold War (relating to Vietnam, China, the Soviet Union, the Middle East, etc.) than any other Cold War–era foreign policy official. However, the passage of additional time may be necessary before Kissinger's tenure can be more objectively evaluated.

- Within the context of Cold War military figures, General Douglas MacArthur's post-World War II career could be of individual national significance. His significant Cold War activities include his appointment as United Nations Commander of the Far East at the outbreak of the Korean War, the successful amphibious landing at Inchon, and his 1951 firing by President Truman after challenging directives to avoid broadening the war. A property importantly associated with his career might be a candidate for NHL nomination.

- Even such high-level Cold War military leaders as Vietnam War commanders William Westmoreland or his successor Creighton Abrams might not attain the level of individual national significance required under NHL Criterion 2. Careful historical analysis might demonstrate otherwise, but properties importantly associated with military leaders are more likely eligible via NHL Criterion 1.

Properties already designated as NHLs within this context include:

- Dwight D. Eisenhower Farmstead, Gettysburg, PA (NHL 1966)—General Eisenhower purchased the Gettysburg farm before he ran for President, and he used it extensively during his presidency, including when it served as his "temporary White House" for five weeks after his 1955 heart attack. [103]

- General George C. Marshall House, Leesburg, VA (NHL 1996)—General Marshall's Leesburg house was intended as a quiet getaway from his hectic life as the Army's Chief of Staff during World War II. It was often used for personal and work-related activities after the war, when he served as Secretary of State and Secretary of Defense, including his work on the early Cold War program to help Europe recover from the war, which was named for him.[104]

[103] https://catalog.archives.gov/id/71994195.
[104] http://catalog.archives.gov/id/41679081.

General George C. Marshall House, Leesburg, Virginia, n.d. Courtesy of LOC P&P, photograph by Carol M. Highsmith, LC-DIG-highsm-16100.

- Adlai E. Stevenson II Farm, Mettawa, IL (NHL 2014)—Governor Stevenson is best known as the titular head of the Democratic Party during the 1950s. Before and after his presidential campaigns, he was importantly associated with the United Nations: first, as lead U.S. delegate at the post-war sessions convened to define key issues about how the new body would operate; and later, as U.S. Ambassador to the United Nations, dealing with such contentious issues as the 1962 Cuban Missile Crisis. Stevenson's farm not only served as his place to work and write, but it also hosted important political meetings as well.[105]

- Ralph Johnson Bunche House, Queens, NY (NHL 1976)—The home of diplomat Ralph Johnson Bunche is another designated NHL associated with an individual who was important to the United States' involvement in the United Nations. Bunche played key roles in the Israel-Arab Treaty of 1949 and in settling the Suez Canal Crisis in 1956.[106]

A property importantly associated with individuals possessing nationally significant associations within the context of espionage might is:

- The Lower East Side, New York City apartment where convicted spies Julius and

[105] A digital file for this NHL nomination is not yet available online.
[106] http://catalog.archives.gov/id/75316026.

Ethel Rosenberg lived, and where Julius Rosenberg was arrested in 1950.

An already designated NHL within this context is the aforementioned Whittaker Chambers Farm in Westminster, MD, where the reformed Soviet spy laid out his charges of Alger Hiss' spying to Congressman Richard Nixon.

Properties importantly associated with individuals possessing nationally significant associations with societal reactions during the Cold War might be importantly associated with:

- Linus Pauling's efforts to limit atomic testing (also cited earlier within the context of NHL Criterion 1).

- 1964 Republican presidential nominee Senator Barry Goldwater's impact on the rise of political conservatism of the late Cold War period.

Criterion 3:

Criterion 3 applies to properties that represent an overarching belief, principle, or goal of the American people. It is rarely used and its application requires careful scrutiny. Properties designated as NHLs under this criterion must be associated importantly with national ideas and ideals of the highest order as they relate to the history of the Cold War. In many cases, properties appearing to have nationally significant associations of this type are more successfully evaluated and justified within the context of NHL criterion 1 or 2.

Properties associated with representing great American ideas or ideals related to carrying out the national defense, or government and politics, may be eligible within this context if they outstandingly represent presidential leadership, both in crisis management and by inspiring the American people, during the Cold War.

- Government buildings where important actions were taken on one side or the other of the delicate balance between protecting civil liberties and using government powers to challenge internal threats to national security. These would include properties such as those associated with Truman's 1947 executive order to investigate the loyalty of Federal employees, or properties associated with congressional investigations of groups and individuals suspected of supporting communist objectives.

A property already designated as an NHL for its important association with great American ideals and the carrying out of American government is the White House, Washington, DC (NHL 1960).[107] Even though little attention was given to its Cold War associations when it was designated in 1960, it was there that the Cold War–era

[107] https://catalog.archives.gov/id/117691909.

presidents planned strategies, addressed and inspired the American people, and managed such events as the Cuban Missile Crisis.

Properties associated with Cold War research, development, testing, and production may be less likely to meet this criterion's high threshold of representing national ideas and ideals of the highest order.

No properties representing great American ideas or ideals of Cold War research, development, and testing came under consideration during this study, and no such properties have been previously designated under this criterion.

Criterion 4:

Properties designated as NHLs under this criterion must be exceptionally important examples of architecture, engineering, planning, or construction techniques. Such properties might include government buildings or complexes that played vital roles in the Cold War, or whose design and/or construction represent the most important examples of infrastructure associated with the nation's response to Cold War circumstances. Many Cold War properties nominated under Criterion 4 may also be nationally significant under Criterion 1. When evaluating properties under both criteria, a property importantly associated with nationally significant events (Criterion 1) will not also meet Criterion 4 if its Cold War design or construction is merely notable or interesting.

- The secret "alternate Pentagon" (code name: Site R) was impressively excavated under a mountain near the Maryland-Pennsylvania border to provide work space for 1,400 people. As the emergency backup Pentagon during the Cold War, it may meet Criterion 1. To meet Criterion 4, its design or construction would have to be demonstrated to be more than merely impressive.

Properties and resources associated with carrying out the national defense within the context of design or construction may include important new methods of protecting command and control facilities and nuclear-armed bombers or missiles from nuclear attack so they can retaliate, and thus deter preemptory Soviet attack.

- Distinctively functional flight crew quarters and adjacent parking aprons for on-alert SAC nuclear-armed bomber crews were specially designed to reduce the time required to launch a retaliatory attack. Dozens of these facilities were built to deter Soviet attack, and a good intact example is the one at Mountain Home Air Force Base in Mountain Home, ID. A NHL nomination for this property is pending review in 2021.

Strategic Air Command Ground Alert Facility (SACGAF) Ready Alert Building at the edge of the runway at Mountain Home Air Force Base in Idaho, built 1958.

Properties and resources already designated as NHLs within this context include:

- USS *Nautilus*, Groton, CT (NHL 1982)—The *Nautilus* was the world's first nuclear-powered submarine, an exceptionally important example of advanced design.[108]

- NS *Savannah*, Baltimore, MD (NHL 1991)—Recognized under the context of engineering, the Nuclear Ship *Savannah* was part of Eisenhower's Atoms for Peace program. This civilian nuclear-powered passenger/cargo vessel not only demonstrated peaceful uses of atomic energy at ports around the world, but the arrival of a less threatening non-military nuclear vessel facilitated the establishment of port protocols for military nuclear vessels that might later seek permission to enter those ports.[109]

[108] https://catalog.archives.gov/id/132353695.
[109] A digital file for this NHL nomination is not yet available online.

NS Savannah approaching the Golden Gate Bridge on her way to the Seattle World's Fair, San Francisco, California, 1962. Atomic Energy Commission photograph. Courtesy of NARA, Record Group 326.

- Air Force Facility Missile Site 8 (Titan II ICBM Site 571–7), Green Valley, AZ (NHL 1994)—This Titan II ICBM launch facility was designed to survive a first-strike nuclear attack, and then launch its powerful warhead in retaliation.[110]

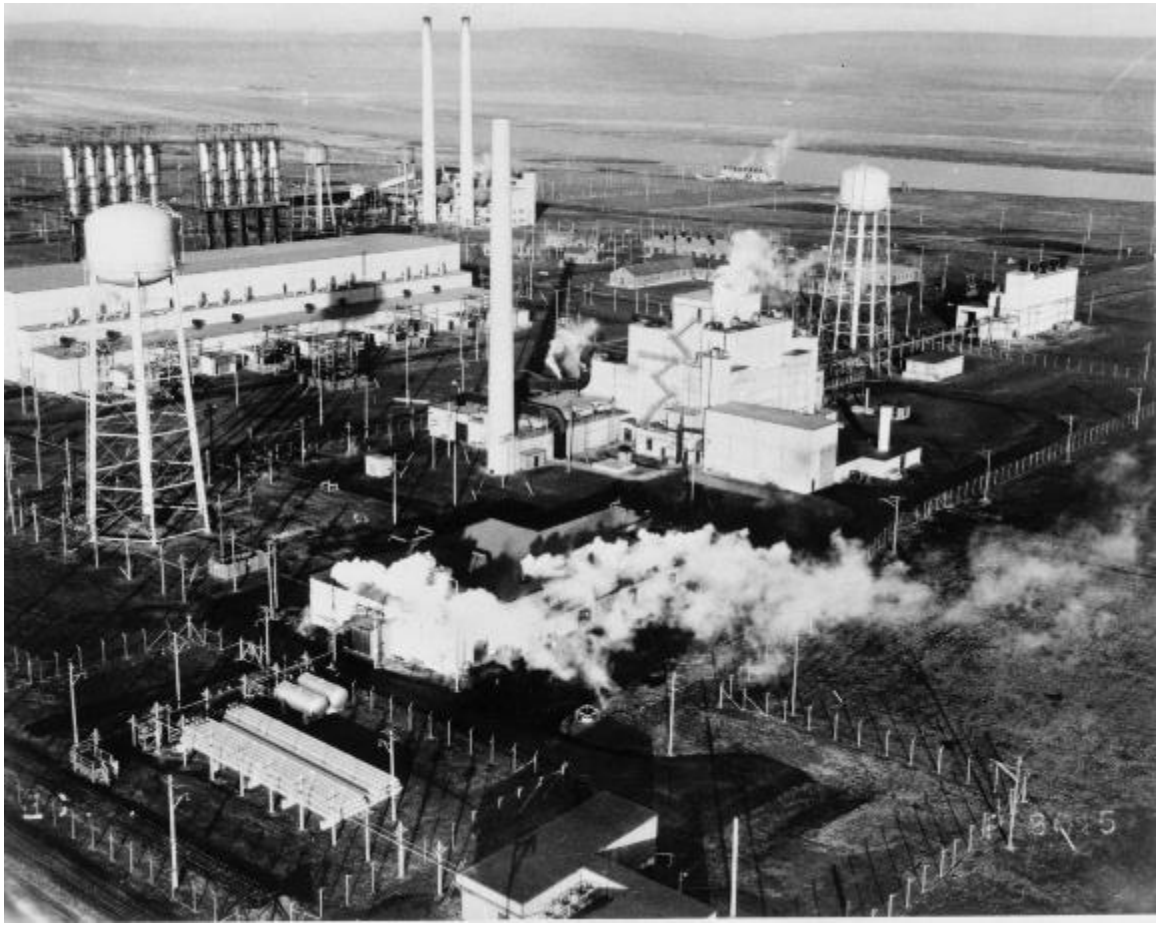
Properties associated with production might include the most important facilities used to produce enriched uranium and plutonium.

- For example, Line #1 at the Iowa Army Ammunition Plant, IA, was the first nuclear weapons assembly line.

A property already designated an NHL within this context is:

- Hanford B Reactor, Richland, WA (NHL 2008)—The B Reactor was the world's first production-scale nuclear reactor, constructed for the Manhattan Project. It continued to serve this function well into the Cold War.[111]

[110] https://catalog.archives.gov/id/75609550.
[111] https://catalog.archives.gov/id/75611905.



100-B Reactor Area, Hanford Site, Richland, Washington, January 1945. Courtesy of LOC P&P, HAER WA-164-1.

Criterion 5:

This criterion acknowledges the importance of districts—groups of buildings, structures, objects, and/or sites—in conveying national significance. The group of resources—the district—is collectively recognized as nationally significant; however, in most cases each of the component resources would not individually meet the requirements for NHL designation. Districts that collectively possess extraordinary historic importance under other criteria may be eligible for designation under this criterion as well. However, districts whose primary significance is architectural are more likely to be designated under Criterion 4.

No groups of properties with nationally significant Cold War associations within this context were identified during this study.

No Cold War–related historic district specifically meeting Criterion 5 has yet been designated an NHL.

Criterion 6:

To be eligible under Criterion 6, a property must have the demonstrated capacity to yield, or to have yielded, information of major scientific importance to our understanding of the Cold War. Though the criterion was originally designed to recognize archeological properties, it may be applied to other property types. A Criterion 6 eligible property must have a high likelihood of containing data which may revolutionize or substantially modify a major historic concept, resolve a historic debate, shed light on periods of occupation in large areas of the United States, or close a gap in the scientific or historic understanding of major themes in United States history.

The submerged wreck of a B-29 heavy bomber (No.45-21847) is under NHL study. The 1945 aircraft was modified two years later to test an early missile guidance system. A July 1948 flight ended when the aircraft flew too low over Lake Mead, and crashed and sank. If the study demonstrates that the submerged cultural resource can yield information that may revolutionize or substantially modify a major historic concept, it may be a candidate for NHL designation. A draft NHL nomination is pending review in 2021.

No Cold War–related archeological site specifically meeting Criterion 6 have yet been designated an NHL.

National Historic Landmarks Criteria Exceptions

Ordinarily, cemeteries, birthplaces, graves of historical figures, properties owned by religious institutions or used for religious purposes, structures that have been moved from their original locations, reconstructed historic buildings, and properties that have achieved significance within the past fifty years are not eligible for designation as NHLs. There are eight exceptions to these exclusions, and in the rare instances when properties can be demonstrated to meet the relevant criterion exception listed below they may, nevertheless, be found to qualify.

Criteria Exception 1:

A religious property deriving its primary national significance from architectural or artistic distinction or historical importance.

This study did not identify any nationally significant Cold War–related religious properties and none has been yet studied for NHL nomination, or already designated. Chapels and other religious properties associated with the Cold War period remain at several military installations, but any historic association related primarily to its particular artistic distinction or historical importance are less likely to rise to the level of national significance.

Criteria Exception 2:

A building removed from its original location but which is nationally significant primarily for its architectural merit, or for its association with persons or events of transcendent importance in the nation's history and the association is consequential.

This study did not identify any nationally significant relocated Cold War properties, and none has yet been studied for NHL nomination, or already designated. Properties designed to be movable, such as aircraft, need not meet this criteria exception. However, it would still be necessary to determine whether the aircraft retains a high degree of integrity. For example, a relocated nationally significant military aircraft must also be located in a historically appropriate setting such as a runway apron or hanger on an airfield.

Criteria Exception 3:

A site of a building or structure no longer standing but the person or event associated with it is of transcendent importance in the nation's history and the association is consequential.

This exception requires a level of historical significance greater than ordinarily required for NHL consideration, and is rarely met. There are no known nationally significant Cold War–related sites that meet this criterion, and none has been studied for NHL nomination, or already designated. Properties that could be considered under this exception might possibly include former buildings or structures having the strongest associations with the most consequential Cold War events, such as decisions to engage in the Korean or Vietnam wars.

Criteria Exception 4:

A birthplace, grave, or burial site if it is of a historical figure of transcendent national significance and no other appropriate site, building, or structure directly associated with the productive life of that person exists.

This study did not identify any nationally significant Cold War–related birthplaces, graves, or burial sites that meet these requirements or that have been studied for NHL nomination, or already designated.

Criteria Exception 5:

A cemetery that derives its primary national significance from graves of persons of transcendent importance, or from an exceptionally distinctive design or an exceptionally significant event.

This study did not identify any nationally significant Cold War–related cemeteries that meet these requirements or that have been studied for NHL nomination, or already designated.

Criteria Exception 6:

A reconstructed building or ensemble of buildings of extraordinary national significance when accurately executed in a suitable environment and presented in a dignified manner as part of a restoration master plan, and when no other buildings or structures with the same association have survived.

This study did not identify any nationally significant reconstructed Cold War–related buildings that meet these requirements or that have been studied for NHL nomination, or already designated.

Criteria Exception 7:

A property primarily commemorative in intent if design, age, tradition, or symbolic value has invested it with its own national historical significance.

This study did not identify any nationally significant commemorative Cold War–related properties that meet these requirements or that have been studied for NHL nomination, or already designated.

Criteria Exception 8:

A property achieving national significance within the past fifty years if it is of extraordinary national importance.

Most of the currently designated NHLs associated with the Cold War were nominated under criterion exception 8 because, when nominated, the Cold War had concluded less than fifty years earlier. During the next two decades, even late Cold War associations will have aged out of this exception, at which point, properties with national significance, but not extraordinary national significance, may be eligible.

A High Degree of Historic Integrity

A high degree of historic integrity is mandatory for a property to be designated an NHL. For example, the property must retain to a high degree the historic fabric that conveys its historical significance. This requirement is met by properties that retain a high degree of integrity in regard to location, design, setting, materials, workmanship, feeling, and association.

In many cases, surviving Cold War–related properties no longer serve their historic function, and have deteriorated or been modified to various degrees. The loss of historic integrity is often obvious; other times it is less so.

Sometimes, the potential NHL is an individual building or structure, and sometimes it is a group of related properties. Assessing the integrity of groups of related historic resources can be complicated by the fact that the degree of integrity of the different resources within a group may vary.

- The operation of Nike missiles required two distinct facilities that were a mile or so apart (the missile launch site and its control facility). Each facility contained several resources. The missile launch areas typically included underground missile magazines, a system of above-ground rails on which missiles moved around the launch area, a missile assembly building, a warhead magazine, launch control trailers, generator buildings, guard sheds, guard dog kennels, security fencing, etc. The distant Integrated Launch Control facility controlled and directed the activity at the missile launch area, and included command, control, and communications facilities, barracks, a mess hall, etc. Some surviving Nike facilities retain more of their launch area resources, and others retain more of their Integrated Launch Control resources. For example, one largely extant Nike launch area retains most of its buildings, but the metal rail system on which the missiles were moved around the site is no longer present. A survey of what historic fabric survives, and what does not, would be the starting point for the evaluation of the integrity of this property. Some of the original features may carry more weight in an evaluation of integrity. Importantly, even if one Nike facility is more intact than another, NHL designation is not appropriate unless it retains a high degree of integrity.

In most instances a large modification or addition to a historic property will result in a loss of integrity, but occasionally even large modifications have a relatively minor impact on a property's high degree of integrity.

- Sedan Crater is a property that may be found to have national significance as one of hundreds of nuclear test detonations conducted at the Nevada Test Site, and for its association with Eisenhower's Atoms for Peace initiative. If determined nationally significant, the property's integrity assessment would need to consider the large viewing platform that was added to a portion of the large crater's rim. The platform is large enough to hold a few dozen tourists, but relatively small when compared to the massive crater. When viewed from the air, the platform's relative size can be compared to the face of a clock on which the 46- to 49-minute tick marks were connected. This illustrates that even a large addition can have a relatively small impact on a property's overall degree of integrity.

The relative impact of modifications on a property's integrity is often less black and white than the above example, and an integrity evaluation should carefully take into consideration all aspects of its integrity and national significance.

Many Cold War–related properties contained electronic equipment that was required to perform their historic function. In many instances, all or portions of their electronic equipment no longer remains. Sometimes, the loss of some historic fabric leaves the extant resource with little more than the less consequential shell that historically sheltered the significant activity. This often results in a loss of a high degree of historic integrity, but in some circumstances the loss of such fabric may be minimized if other key elements, such as the extant form and appearance of the "empty box" importantly conveys the property's nationally significant function.

- A Minuteman missile's underground launch control "pod" might be considered to retain a high degree of integrity even without some of its original electronics intact. Although possibly an "empty box," its distinctive four-foot-thick reinforced concrete shell, plus ¼-inch steel plate liner, may still strongly convey its historically significant function.

Location is the exact place where a historic event occurred or where a historic property was constructed. A property associated with the Cold War will meet the standard of integrity of location if it is the actual site where something significant happened or if it is the place where a historic structure was built.

- The former Richmond Naval Air Station's Building 25, in the Miami, FL area, housed the CIA's 1960s secret task force to harass and overthrow Fidel Castro. Despite being restored, the large frame building does not retain a high degree of integrity of location because it was recently moved a half mile away to remove it from an active military base.

Properties that have been moved may only be considered for designation if they meet the requirements of the related NHL Criterion Exception 2 above.

Design includes the architectural or engineering features that establish the historic form, plan, space, structure, and style of a property. In districts, design also reflects the way in which buildings, sites, and structures relate to each other. If essential design elements are lost in the process of rehabilitation or adaptive reuse, the integrity of the property is reduced.

- A 1960s Atlas ICBM missile launch gantry reconfigured to launch larger rockets has probably lost the integrity of its original design.

Setting relates to the environment in which a property is located. It relates to the setting outside the proposed historic boundary, as well as the setting within the proposed boundary.

- A Strategic Air Command base for nuclear-armed bombers constructed in a rural location will have greater integrity of setting if its surroundings have not been enveloped by new development, and newer buildings have not been placed in spaces that were open during the period of national significance.

Materials are the combined physical elements with which a resource was built. NHLs need to retain a high degree of original materials, both on the exterior and on the interior.

- A 1960s long-range radar where the large character-defining revolving parabolic mast (antenna) was replaced with a later model enclosed in a smaller sphere, has lost its integrity of materials.

Workmanship reflects the skill and labor required to construct or modify a historic resource. Generally, good workmanship is appropriate to the type of resource, whether a

modest guard tower, a missile launch site, or an architecturally sophisticated military command's headquarters building.

Feeling is a historic property's expression of the time in which it was constructed or used. It results from the presence of physical features that, taken together, convey the property's historic character. Modern intrusions, surfaces, and treatments may adversely affect the historic feeling of a property. The retention of a historic property's integrity of feeling is often intertwined with retaining its integrity of location, design, setting, and workmanship.

- A Cold War–era laboratory built in a remote and isolated location, and designed with only cost and function as considerations, can convey a strong feeling for the time and circumstance of its construction.

Association is the direct link between an important historic event or person and a specific resource. A property where a significant event actually occurred or where a creative person did his work will have a strong element of association if it still conveys its historic character through the existence of other physical features.

- The site of the first test detonation of a hydrogen bomb is strongly associated with that important event.

The integrity of archeological properties is determined by the data-yielding capacity of the particular deposits or features associated with the nationally significant themes enunciated in the nomination document. In addition to, or in lieu of, archeological excavation, prior documentation (e.g., reports, studies, and references to previous excavations), remote sensing, collections, and the observations of scholars may be used to support an assessment of archeological integrity where no remains are visible aboveground.

Evaluation

If properties associated with the Cold War that are eligible for listing in the National Register of Historic Properties are rare, those potentially eligible for designation as NHLs are even rarer. Few properties would meet the significance criteria, and fewer still would also retain the high degree of historic integrity needed for designation. Careful research and evaluation would be needed to demonstrate which properties meet these requirements.

Mere association with a national event does not make a property automatically eligible for NHL designation. This point can be illustrated using a different class of historic properties. A thorough survey of all Civil War battlefields logically concluded that while the Civil War was clearly a nationally significant event, not all battles were equally consequential.[112] That study placed those battles which had "a direct and decisive

[112] Civil War Sites Advisory Commission/National Park Service, *Civil War Sites Advisory Commission Report on the Nation's Civil War Battlefields* (Washington, DC: National Park Service, 1993).

influence on their campaign" into one group, and those that had "a decisive influence on a campaign and a direct impact on the course of the war" into another group. For the purposes of NHL evaluations, the latter group likely included properties with historical significance at the level required for NHL consideration. Cold War properties do not yet have the benefit of a study that distinguishes which historic associations are likely to be nationally significant, so each proposed Cold War NHL must be evaluated on a case-by-case basis.

Historic properties considered for designation as NHLs must be evaluated against other comparable properties also associated with the Cold War. Through such evaluation, those that have the strongest association with the era, the highest level of significance, and a high degree of integrity would be the best properties to be considered for designation. The universe of potential comparable properties should not be defined too narrowly. Comparable properties are related properties that share the same nationally significant association, and that retain a high degree of historic integrity. The pool of comparable properties should not exclude related properties merely because they do not mirror characteristics of the property being proposed for NHL nomination.

- If study suggests that a Vietnam War–era United States Navy Swift Boat may be worthy of NHL designation, the assessment of any particular surviving example must consider the relative significance and integrity of related properties. Even if the proposed NHL candidate had the impressive attribute of being fully operational, that attribute is not necessarily the best way to assess the relative integrity of such vessels. It would be inappropriate to frame the comparative analysis to exclude Swift Boats that retain a high degree of integrity but are not fully operational.

- Former Strategic Air Command Ground Alert Facilities remain at a few former SAC bases, including one at the Mountain Home Air Force Base (ID) and one at the former Eaker Air Force Base (AR). The one at Mountain Home retains its original configuration from the early 1960s, which reflects the transition period during which SAC bomber Ground Alert Facilities stood nearly alone in deterring Soviet attacks, before ICBMs became more powerful, effective, and plentiful. The ground alert facility at Eaker received a major addition during the 1980s, making the extant facility less reflective of the period before ICBMs played a larger role in deterring aggression. The Ground Alert Facilities that retain their integrity to the period when SAC Ground Alert facilities were most consequential, are the most appropriate candidates for NHL consideration.

- One of the most dangerous events of the Cold War was the 1962 Cuban Missile Crisis. Dozens of U.S. Navy vessels participated in that naval blockade, but some more consequentially than others. For example, heavy cruiser *Newport News* (CA-148) was the blockade's flagship, and *Enterprise* (CV-65), the first nuclear aircraft carrier, played a major role. However, neither of these survive. Only two vessels (both destroyers) were directly involved in the only incident where U.S. personnel boarded and inspected a Cuba-bound ship (the freighter *Marucla*) for contraband. Shortly after sunrise on October 26, 1962, a small team of unarmed

members from the USS *Joseph P Kennedy Jr.* (DD-850) and the USS *John Pierce* (DD-753) motored to the freighter in the *Kennedy's* small whaleboat. After searching the freighter for two and a half hours, the boarding party found no prohibited cargo, and the vessel was permitted to proceed. Since the *Pierce* has been scrapped, the *Kennedy* may be the extant property with the most consequential association with the naval blockade. The *Kennedy* is currently a museum ship in Fall River, MA, and it was designated an NHL in 1989 for representing the *Geary* class of destroyer. If it retains a high degree of historic integrity to its 1962 appearance and configuration, expanding its NHL recognition under Criterion 1 could be considered.

Since the Vietnam War was waged far outside U.S. territory, mobile Navy vessels are among the relatively few U.S.-located properties directly associated with that war. Potential Vietnam War NHLs might be nationally significant because they represent an important vessel type, or because they are importantly associated with a highly consequential event. Sometimes these two avenues overlap.

- The expansion of U.S. military involvement in Vietnam is importantly linked with the Gulf of Tonkin Incident of August 1964, when enemy forces reportedly fired on U.S. ships off the coast of Vietnam. Historians debate what actually happened that night, but whether the attacks were actual or perceived, the reported attacks spurred congressional authorization to expand U.S. involvement in Vietnam. Several ships were involved in the immediate naval response to the incident, one of which is the *Forrest Sherman* class destroyer USS *Edson* (DD-946), which was designated an NHL in 1990. Edson was associated with the Tonkin Gulf Incident, but it was designated because it represented its class of destroyer. Properties with stronger associations with the incident are the two vessels involved in the initial "attack": the *Sumner* class destroyer USS *Maddox* (DD-731), and the *Forrest Sherman* class destroyer USS *Turner Joy* (DD-951). The *Maddox* has been scrapped, leaving the *Turner Joy* as the most appropriate Tonkin Gulf-related property for NHL consideration (assuming that the Bremerton, WA, museum ship retains a high degree of integrity to its 1964 configuration). Perhaps a case can be made that other ships importantly represent the overall historical significance of destroyer activities during the Vietnam War.

USS Edson, November 16, 1965. By Photographer's Mate Petty Officer 3rd Class G.S. Brown. US Navy Photograph. Courtesy of NH Series #106000, Naval History and Heritage Command Photo Archives, https://www.history.navy.mil/our-collections/photography/numerical-list-of-images/nhhc-series/nh-series/NH-106000/NH-106975.html.

The examples above relate to historic associations that are fairly compelling, and for which the initial evaluation task is to identify which extant properties best represent those compelling associations. In other instances, a potential NHL's specific historic association may be less compelling. In those circumstances, a well-informed analysis is vital to demonstrate why a property's historic association exceeds the level of significance required for listing in the National Register of Historic Places.

- Nuclear weapons loom large in the history of the Cold War, but not every property associated with nuclear weapons is worthy of NHL consideration. For example, the Clarksville Base at Fort Campbell, KY, was the second of thirteen nuclear weapon storage sites, and at one point stored a large portion of our nuclear arsenal. An analysis would be necessary to demonstrate whether the storage of nuclear weapons rises to the level of significance required for NHL designation. If it does, the relative significance of the property under consideration would need to be addressed.

For NHL designation, an archeological property should possess the aspects of integrity described above to a high degree. The intactness of archeological deposits must be

professionally demonstrated, to determine whether the site has the potential to yield data that may address nationally significant research questions.

For further information for evaluating properties for NHL designation, see National Register Bulletin: How to Prepare National Historic Landmark Nominations (1999).[113]

Several historical themes can be associated with the Cold War, based on the Revised Thematic Framework that the National Park Service adopted in 1994 (and revised in 1996). Derived from the historic context above, the themes include: IV. Shaping the Political Landscape; VI. Expanding Science and Technology; and VIII. Changing Role of the United States in the World Community. These themes and others are outlined in Revisions of the National Park Service Thematic Framework (1996).

Methodology

The process for identifying properties associated with this Cold War sites historic context began in June 2010 with letters from the historical consultant who prepared this study to State Historic Preservation Officers, Federal Preservation Officers, and Tribal Preservation Officers throughout the United States and its territories. The letters requested assistance in identifying properties associated with the Cold War. At the same time, research in secondary sources was conducted concerning the history of the Cold War, the development of the atomic bomb and the creation of the national nuclear weapons complex, and the research, development, testing, production, and deployment of the offensive and defensive missile systems, defensive radar networks, and military installations that defended the United States during the Cold War.

The Cold War, a global contest, went on for almost half a century. To wage it, the United States not only created an infrastructure of missile and radar sites that were later altered to support advances in technology, it also "retrofitted" older sites and military installations, adapting them for new uses such as training, bomb storage, and missile testing. As a result, while some Cold War sites were newly constructed during the period 1945–1991, others include elements of older facilities. In addition, since the end of the Cold War, many sites have been deactivated, destroyed, or turned over to cities, states, and developers for other uses.

In 1991, Congress directed the Department of Defense to conduct a nationwide survey of Cold War–related resources under its jurisdiction. That effort is ongoing and has resulted in a number of topical surveys, some of which have been released to the public and are listed in the Bibliography. Other surveys have been started but not completed; some have been completed but not released to the public. There are others whose status is uncertain. In addition, some state historic preservation offices have conducted similar surveys of Cold War properties within their states or have received cultural resource management reports and surveys of Cold War resources at particular installations.

[113] National Park Service, *National Register Bulletin: How to Prepare National Historic Landmark Nominations* (Washington, DC: National Park Service, 1999), 21-37.

In summary, there is no single, comprehensive survey of properties associated with the Cold War. Those surveys that do exist often reflect preliminary assessments of National Register eligibility, rather than NHL thresholds of significance and integrity, and they vary widely in the comprehensiveness of their historic contexts and the degree of detail in their property inventories. Some reports and surveys are available on websites, while others can be seen only in state or federal agency libraries. Persons who wish to nominate properties to the National Register of Historic Places, or for designation as NHLs, may therefore face numerous challenges in conducting research. In addition, properties may have been listed in the National Register or designated as NHLs that have clear associations with the Cold War which were not part of the documentation for the nomination or the designation.

Designated National Historic Landmarks

National Historic Landmarks Designated for Their Cold War Associations

Over the years, Secretaries of the Interior have designated the following Cold War–related resources as NHLs. Even if the "Cold War" was not specifically addressed in the way it would be for a new nomination prepared under this theme study, each property's nationally significant Cold War associations are a major element in the property's case of NHL designation. URLs are given for nominations available online at the National Archives website.

Air Force Facility Missile Site 8 Military Reservation, Pima County, AZ (designated 1994)[114]
This is the only intact Titan II ICBM site of fifty-four that were operational between 1963 and 1987 during the Cold War. The site includes the liquid-fueled missile launch facilities and has retained or reacquired all of the above- and below-ground command and control components as well as the missile silo. Under provisions of the SALT I treaty, all of the Titan II missile sites except this one were destroyed over a five-year period beginning in 1982. The site is now the Titan Missile Museum and is open to the public.

Cape Canaveral Air Force Station, Brevard County, FL (designated 1984)[115]
Selected in the late 1940s, this oceanfront site had the important advantage of launching rockets over the Atlantic Ocean, rather than over land. The first missile launched here (1950) was a captured German V-2 rocket with an Army WAC Corporal second stage added. Launch facilities were expanded for testing later generations of military missiles, as well as NASA manned and unmanned rockets. The facility was known as the Cape Kennedy Air Force Station for a decade after President Kennedy's death. Portions of the facility can be visited during organized tours.

Dwight D. Eisenhower Farmstead, Adams County, PA (designated 1966)[116]
Dwight D. Eisenhower and his wife, Mamie, bought this farm near Gettysburg in 1950 as a retirement home. His service as NATO commander and president delayed their retirement plans, however. After Eisenhower's 1955 heart attack, the farm served as the temporary White House as he recuperated. Throughout his presidency, he escaped to the farm whenever he could, and met with staff and world leaders there, including Nikita Khrushchev during the Cold War. The Eisenhowers donated the site to the National Park Service in 1967. It has been open to the public since 1980.

Freedom Tower, Miami, FL (designated 2008)[117]
Following Fidel Castro's rise to power in 1959, hundreds of thousands of Cubans fled to the United States in several waves during the next few decades. In 1962, after the failed Bay of Pigs invasion, and before the Cuban Missile Crisis, the General Services Administration leased the first four floors of the Miami News Building to provide

[114] https://catalog.archives.gov/id/75609550.
[115] https://catalog.archives.gov/id/77841869.
[116] https://catalog.archives.gov/id/71994195.
[117] https://catalog.archives.gov/id/77841901.

services to refugees from Cuba. The Cuban Refugee Assistance Center provided medical exams, identification cards, food, and financial and resettlement assistance. This Federal commitment to these refugees reflected the special prominence the conflict between these two countries occupied throughout the Cold War. Currently occupied by Miami Dade College, portions of Freedom Tower include exhibits related to the Cuban exile experience that are open to the public.

USS *Joseph P. Kennedy, Jr.*, Fall River, MA (designated 1989)[118]
Designated an NHL as the sole remaining *Gearing* class destroyer, it is also significant as one of only two U.S. Naval ships to stop and board a Cuban-bound vessel during the Cuban Missile Crisis. If it retains a high degree of integrity relative to its 1962 configuration, it may be appropriate to expand the NHL documentation to address its important association with the Cuban Missile Crisis. The *Kennedy* is open to the public as a museum ship in Fall River, MA.

Kennedy Compound, Barnstable County, MA (designated 1972)[119]
The Kennedy Compound contains the three summer homes of President John F. Kennedy, Attorney General Robert F. Kennedy, and their father, Ambassador Joseph P. Kennedy. During John F. Kennedy's tenure as president, and while Robert F. Kennedy served as attorney general and his brother's principal advisor, several of the Cold War's most dangerous moments occurred, especially the Bay of Pigs invasion and the Cuban Missile Crisis. Throughout his presidency, the Kennedy Compound served as one of his retreats. The houses are not open to the public.

General George C. Marshall House, Loudoun County, VA (designated 1996)[120]
Known as *Dodona Manor*, this is the only house that George C. Marshall ever owned. His wife purchased it in 1941 to serve first as a weekend retreat and then as a retirement home after Marshall served as army chief of staff during World War II. Immediately after retiring from the Army, however, Marshall received a call at the house from President Harry S Truman asking him to serve as Secretary of State. Marshall is best known, in terms of his postwar career, as the architect of the European Recovery Program, called the Marshall Plan. *Dodona Manor* has been restored—many of the contributions toward its preservation came from grateful Europeans—and is open to the public.

May 4, 1970, Kent State Shootings Site, Kent, OH (designated 2016)[121]
While trying to quell anti-war demonstrations on this state university campus, members of the Ohio National Guard shot and killed four people. This tragic shooting of young civilians by young soldiers helped strengthen opposition to the war.

USS *Nautilus*, Groton, CT (designated 1982)[122]
President Harry S Truman laid the keel of *Nautilus*, the world's first nuclear-powered submarine, on June 14, 1952, at Groton, Connecticut. *Nautilus* was launched on January

[118] https://catalog.archives.gov/id/63793663.
[119] https://catalog.archives.gov/id/63793631.
[120] https://catalog.archives.gov/id/41679081.
[121] Digital file not yet available online.
[122] https://catalog.archives.gov/id/132353695.

21, 1954 and got under way on nuclear power on January 17, 1955. On August 3, 1958, the submarine became the first vessel to sail under the North Pole. *Nautilus* was decommissioned on March 3, 1980. The submarine has been open to the public since 1986.

Pentagon, Arlington County, VA (designated 1992)[123]
Constructed in 1941–1942 to house the rapidly expanding War Department at the beginning of World War II, the Pentagon became the best-known symbol of American military might during the Cold War years. Constructed with 6,240,000 square feet of office space, it was then the largest such building in the world. Here the Secretary of Defense and the Joint Chiefs of Staff have their offices. Public access is limited.

N.S. *Savannah*, Baltimore, MD (designated 1991)[124]
This first nuclear-powered commercial ship was built under President Eisenhower's Atoms for Peace program. The combination passenger/cargo ship was designed to demonstrate the safe and reliable operation of this new technology. Its travels to dozens of countries' ports helped establish protocols for nuclear ships to gain access to foreign ports. *Savannah* is not generally open to the public.

Space Launch Complex 10, Vandenberg Air Force Base, Santa Barbara County, CA (designated 1986)[125]
The launch complex was constructed in 1958 to test Thor ballistic missiles and train their military operators. From 1965 to 1980, the site supported early launches of the Defense Meteorological Satellite Program, using launch vehicles based on the Thor missile design. Located at Vandenberg Air Force Base, this property is not open to the public.

Adlai E. Stevenson II Farm, Mettawa, IL (designated 2014)[126]
As his home and frequent office for most of his adult life, this property is importantly associated with Adlai Stevenson. In addition to his role as titular heard of the Democratic Party during the 1950s, Stevenson played important roles in the establishment and operation of the United Nations from 1945 to 1947, and as U.S. Ambassador to the United Nations in the early 1960s. His important Cold War–related activities included when he boldly challenged his Soviet Union counterpart in the Security Council during the Cuban Missile Crisis. The Lake Forest County Preserve District operates the Stevenson house and farm as a historic property.

Harry S Truman Historic District, Independence, Jackson County, MO (designated 1971)[127]
The Truman house at 219 North Delaware Street, Harry Truman's primary home from 1919 until his death in 1972, is the core of the site and district. Truman served as President of the United States from the death of President Franklin D. Roosevelt in 1945 until 1953—the earliest years of the Cold War—and gave final authorization for the first

[123] https://catalog.archives.gov/id/41678991
[124] The digital file for this NHL is not yet available online.
[125] https://catalog.archives.gov/id/123858095.
[126] The digital file for this NHL is not yet available online.
[127] The digital file for this NHL is not yet available online.

and only uses of atomic weapons in warfare. He was here in June 1950 when he learned that North Korea had invaded South Korea. The house is open to the public.

Westminster College Gymnasium, Callaway County, MO (designated 1968)[128]
At the invitation of President Harry S Truman, former British prime minister Winston Churchill visited Westminster College in Truman's home state of Missouri. On March 5, 1946, in the college gymnasium, Churchill delivered his speech, which was broadcast by radio throughout the United States. He had entitled the address "The Sinews of Peace," but due to a passage in which he proclaimed in reference to Soviet influence in Europe that "an iron curtain has descended across the Continent," it became known as the "Iron Curtain" speech. Access may be available.

White Sands V-2 Launching Site, Dona Ana County, NM (designated 1985)[129]
The gantry crane and Army blockhouse at Launch Complex 33 were used to test captured German V-2 rockets after World War II. The sixty-seven V-2 rockets, and other rockets launched here between 1946 and 1951, laid an important foundation for the nation's military and civilian rocket programs. Located at White Sands Missile Range, this property is not open to the public.

Whittaker Chambers Farm, Carroll County, MD (designated 1988)[130]
Also known as Pipe Creek Farm, this was the home of the former Communist who played a key role in the conviction for perjury of Alger Hiss, a State Department official who was charged with attempting to pass secrets to the Soviet Union. Most famously, Hiss gave Chambers documents on a roll of film that Chambers concealed in a hollowed-out pumpkin in the pumpkin patch on the farm; the documents became known as "The Pumpkin Papers" when Chambers turned them over to the House Un-American Activities Committee in 1948. The farm is private property, not open to the public.

Cold War-Related National Historic Landmarks Designated for Reasons Other Than Their Cold War Associations

The following NHLs were designated for reasons other than nationally significant associations with the Cold War. In some nominations, nationally significant Cold War associations are implied, but not demonstrated. In some nominations, potential Cold War associations were not considered because the proponents focused on other areas of national significance. It should be noted that most of the NHLs listed below were nominated and designated during the Cold War. All but a few of these NHLs had historic associations that were less than fifty years old at the time of nomination, which would have required the application of NHL Criterion Exception 8. In some instances, proponents declined to explore possibly nationally significant Cold War associations to avoid the responsibility for establishing whether the property met the required extraordinary level of national significance. However, if previously unaddressed nationally significant Cold War associations can now be demonstrated, amending the

[128] https://catalog.archives.gov/id/63818142.
[129] https://catalog.archives.gov/id/77846981.
[130] https://catalog.archives.gov/id/106775940.

documentation of those NHLs may be appropriate. Assessments of their degree of historic integrity must also be part of any future NHL evaluations. URLs are given for nominations available in the NHL collection on the National Archives website.

USS *Albacore*, Portsmouth, NH (designated 1989)[131]
This experimental Diesel-electric submarine represents early Cold War advances in naval architecture where surface operating characteristics were subordinated to enhance underwater performance. *Albacore* was much quieter, faster, and more maneuverable than earlier submarines. Subsequent modifications made during the 1950s and 1960s continued to seek refinements in submarine design. *Albacore* is open to the public in Portsmouth, NH.

Blair House, Washington, DC (designated 1973)[132]
Located diagonally across Pennsylvania Avenue from the White House, this early nineteenth-century house became the State Department's official guesthouse in 1942, and became President Truman's temporary residence for three years when the White House interior was gutted and rebuilt. Blair House was expanded during the Cold War to include adjoining residences. It housed visiting dignitaries and U.S. presidents prior to their inaugurations, and also hosted numerous meetings. Blair House is not open to the public.

Ralph Johnson Bunche House, Queens, NY (designated 1976)[133]
American United Nations diplomat Ralph Bunche's efforts to negotiate an armistice agreement in the Arab-Israeli War won him the 1950 Noble Peace Prize (the first person of color to receive that award). His other important activities include: being a Security Council mediator in the India-Pakistan Conflict in 1953; negotiating the end of war in Egypt and the Suez Canal Crisis in 1956; and serving as Undersecretary General of the United Nations, the highest position of any American at the United Nations. This private residence is not open to the public.

USS *Edson*, Bay City, MI (designated 1990)[134]
Completed in 1958, USS Edson is the only unmodified version of the *Forrest Sherman* class of destroyer, the U.S. Navy's last class of all-gun, general purpose destroyers. Her tours of duty included extensive Vietnam War service between 1964 and 1974. In August 1964, Edson was part of the Naval Task Group that responded to reports of Vietnamese attacks on other U.S. ships in the Gulf of Tonkin. She is open to the public at a maritime museum in Bay City, MI.

Experimental Breeder Reactor No. 1, Idaho National Engineering Lab, Butte County, ID (designated 1965) [135]
This facility generated the world's first electricity from atomic energy. Construction began in 1949 and the reactor was installed early in 1951. On December 20, 1951, experimenters harvested atomic energy for the first time and the next day the reactor

[131] https://catalog.archives.gov/id/77844580.
[132] https://catalog.archives.gov/id/117691791.
[133] https://catalog.archives.gov/id/75316026.
[134] The digital file for this NHL is not yet available online.
[135] https://catalog.archives.gov/id/84248774.

produced enough electricity to light the facility. This was also the world's first breeder reactor and the first to use plutonium as a fuel. The reactor is open to the public between Memorial Day and Labor Day.

Gerald R. Ford, Jr. House, Alexandria, VA (designated 1985)[136]
As a result of President Nixon's sudden resignation, this modest suburban home became the residence of the thirty-eighth president of the United States on August 9, 1974. The Fords remained here for ten days, until Nixon's possessions were removed from the White House. During this interlude, the decidedly non-imperial routine of the unelected President helped reassure a weary nation that "our long national nightmare was over." This private residence is not open to the public.

Fort David A. Russell (Francis E. Warren Air Force Base), Laramie County, WY (designated 1975)[137]
Francis E. Warren Air Force Base evolved from a frontier infantry and cavalry outpost in the nineteenth century to a strategic missile site during the Cold War. In 1960, Warren became the first fully operational Atlas ICBM squadron, and two years later, Minuteman I replaced the Atlas missiles there. Minuteman III missiles replaced the earlier models in 1975, and Peacekeepers arrived in 1986. Although the ending of the Cold War reduced the numbers of strategic missiles in the nation's arsenal, Warren remains the largest strategic missile site in the United States. The Warren ICBM/Heritage Museum is open to the public.

The Greenbrier, Greenbrier County, WV (designated 1990)[138]
When the Greenbrier was designated an NHL for its significance in the history of American resorts, few knew that major 1950s additions had been designed to accommodate the 535 members of the U.S. Senate and House of Representatives if they had to evacuate Washington. The additions included secure underground areas where the exiled legislators could sleep, plus two large public ballrooms that hosted routine functions unless an emergency required them to serve as substitute Senate and House chambers. Later modifications to the ballrooms may have diminished their degree of historic integrity. Portions of the overall property are available to resort guests.

Hanford B Reactor, Richland, Benton County, WA (designated 2008)[139]
The B Reactor at the Hanford site was the world's first production-scale nuclear reactor. It was constructed in 1943–1944 for the Manhattan Project and it produced the plutonium for the world's first nuclear test at the Trinity site near Alamogordo, New Mexico, on July 16, 1945, and for the atomic bomb exploded over Nagasaki, Japan, on August 9, 1945. The reactor served as the model for other nuclear reactors designed and constructed during the early years of the Cold War. It continued to produce plutonium for the Cold War nuclear arsenal until it was shut down in 1968. The reactor is open for guided tours.

[136] https://catalog.archives.gov/id/41678979.
[137] https://catalog.archives.gov/id/73730070.
[138] https://catalog.archives.gov/id/86534599.
[139] https://catalog.archives.gov/id/75611905.

USS *Hornet,* Alameda Point, CA (designated 1991)[140]
USS *Hornet* was designated for its associations with World War II, and with NASA's early lunar landing missions. During the Korean War, *Hornet* was reactivated as an attack aircraft carrier, and during the 1950s and 1960s, she tracked Russian submarines. *Hornet* also participated in the Vietnam War. If additional analysis demonstrated that any of those associations are worthy of NHL recognition, consideration can be given to expanding the NHL nomination. The ship is open to the public as the USS *Hornet* Museum.

USS *Intrepid*, New York, NY (designated 1986)[141]
This aircraft carrier was designated for its association with World War II. If additional analysis demonstrates that the significance of its Cold War activities meets NHL requirements, consideration can be given to expanding the NHL nomination. Modifications made to the ship during the Cold War, such as an angled flight deck, may enhance its Cold War–era integrity. Intrepid is a part of a maritime museum in New York City.

Rogers Dry Lake, Kern and San Bernardino Counties, CA (designated 1985)[142]
This broad expanse of hardened clay surface forms the largest natural landing field in the world. With a climate that assures 350 days a year of flying weather, the dry lake was a ready-made emergency landing field for experimental aircraft. The characteristics of Rogers Dry Lake made possible the successful development and testing of generations of American military and civilian aircraft, including advances in turbojet, supersonic, and hypersonic research, as well as testing and operation of NASA's Space Shuttle. Located within the boundaries of Edwards Air Force Base, this property is not open to the public.

Sequoia (AG-23), Washington, DC (designated 1987)[143]
Built in 1925, this 104-foot-long yacht began to be used by U.S. presidents for recreational, ceremonial, and governmental purposes in the early 1930s. Among its official Cold War–era uses: Truman hosted a 1947 meeting of U.S., British, and Canadian conferees discussing nuclear and scientific exchanges; Johnson used it while lobbying legislators to support his Great Society programs; and Nixon used it for a meeting when he decided to mine North Vietnam's Haiphong Harbor, and on another occasion, hosted discussions with Soviet Chairman Brezhnev. Sold at auction during Carter's presidency, *Sequoia* is privately owned, and is not available to the public.

United States Capitol, Washington, DC (designated 1960)[144]
The seat of the U.S. government's legislative branch was frequently the site of nationally significant activities during the Cold War. In addition to open deliberations on important issues in the House and Senate chambers, smaller gatherings in meeting rooms and offices of Congressional leaders were consequential. Presidents announced important Cold War–era policies during annual State of the Union addresses and during other

[140] https://catalog.archives.gov/id/123857879.
[141] https://catalog.archives.gov/id/75315946.
[142] https://catalog.archives.gov/id/123857909.
[143] https://catalog.archives.gov/id/117691867.
[144] https://catalog.archives.gov/id/117691895.

special Joint Sessions of Congress. A few Joint Session speeches made by non-members, such as General Douglas MacArthur, were highly consequential during the Cold War. Tours of the Capitol are available.

White House, Washington, DC (designated 1960)[145]
During the Cold War, presidents Harry S Truman, Dwight D. Eisenhower, John F. Kennedy, Lyndon B. Johnson, Richard M. Nixon, Gerald R. Ford, Ronald Reagan, and George H. W. Bush directed American political and military strategy while in residence at the White House. There, also, they met with Soviet leaders, negotiated treaties and agreements, and worked their way through such events as the Cuban Missile Crisis. The Oval Office was the scene of many important Cold War–related addresses by several presidents. Pre-arranged tours are available.

X-10 Reactor, Oak Ridge National Laboratory, Roane County, TN (designated 1965)[146]
Constructed in 1942–1943, the X-10 was the first nuclear reactor built for continuous operation and experimentation. It went into operation on November 4, 1943, and used neutrons emitted in the fission of uranium-235 to convert uranium-238 into a new element, plutonium-239. The reactor supplied the first significant amounts of plutonium to the Los Alamos laboratory. After the war ended, X-10 became the world's first facility to produce radioactive isotopes for peacetime use, including radioisotopes to treat cancer and for other medical uses. Oak Ridge bus tours that include a stop at the X-10 Reactor are available during much of the year.

USS *Yorktown* (CV-10), Mount Pleasant, SC (designated 1986)[147]
This Essex-class aircraft carrier was designated for its association with World War II. If its Vietnam-era activities are nationally significant, it may be appropriate to expand and update the NHL nomination. Modifications made during the Cold War may have little impact on a reassessment of its degree of integrity. *Yorktown* is docked in Mount Pleasant, SC, and is available for public tours.

National Historic Landmarks with Potential Nationally Significant Cold War Associations

USS *Becuna,* Philadelphia, PA (designated 1986)
Boston Naval Shipyard, Boston, MA (designated 1966)
Camp Evans, Wall Township, NJ (designated 2012)
USS *Cassin Young*, Charleston Navy Yard, MA (designated 1986)
CINCPAC Headquarters, Honolulu, HI (designated 1987)
USS *Clamagore*, Mount Pleasant, SC (designated 1989)
USS *Cobia,* Manitowoc, WI (designated 1986)
USS *Cod*, Cleveland, OH (designated 1986)
Fort Hancock and the Sandy Hook Proving Ground Historic District, Monmouth County, NJ (designated 1982)

[145] https://catalog.archives.gov/id/117691909.
[146] https://catalog.archives.gov/id/135817599.
[147] https://catalog.archives.gov/id/118996908.

Hickam Field, Honolulu, HI (designated 1985)
USCGC *Ingham*, Key West, FL (designated 1992)
Kaneohe Naval Air Station, Honolulu County, HI (designated 1987)
USS *Kidd* (DD-661), Baton Rouge, LA (designated 1986)
USS *Laffey* (DD-724), Mount Pleasant, SC (designated 1986)
SS *Lane Victory*, San Pedro, CA (designated 1990)
USS *Lexington*, Corpus Christi, TX (designated 2003)
USS *Lionfish*, Fall River, MA (designated 1986)
USS *Massachusetts* (BB-59), Fall River, MA (designated 1986)
National War College, Washington, DC (designated 1972)
Palm Circle, Honolulu, HI (designated 1987)
Pensacola Naval Air Station, Pensacola, FL (designated 1976)
Puget Sound Naval Shipyard, Bremerton, WA (designated 1992)
Quarters 1, Fort Meyer, VA (designated 1972)
Paul Robeson Residence, New York, NY (designated 1976)
Rock Island Arsenal, Rock Island, IL (designated 1988)
State, War and Navy Building, Washington, DC (designated 1971)
USCGC *Taney* (WHEC-37), Baltimore, MD (designated 1988)
USS *The Sullivans* (SS-537), Buffalo, NY (designated 1986)
USS *Torsk* (SS-423), Baltimore, MD (designated 1986)
United States Air Force Academy, Cadet Area, El Paso County, CO (designated 2004)
United States Military Academy, West Point, NY (designated 1960)
United States Naval Academy, Annapolis, MD (designated 1961)
United States Naval Base, Pearl Harbor, Honolulu, HI (designated 1964)
Wheeler Field, Honolulu County, HI (designated 1987)

Study Lists

Properties Worthy of National Historic Landmarks Consideration

Based on research conducted for this theme study, these properties appear to have associations with nationally significant topics within the Cold War context. Thorough studies of their relative significance and integrity will inform whether they appear to meet NHL requirements. In addition, further study will likely uncover more resources potentially eligible for NHL designation. Inclusion on this list does not mean that conclusions have been made about whether the properties meet NHL requirements.

Atlas ICBM Launch Facilities. Three extant launch facilities for this first generation of ICBM missiles have been identified: the Facility 1788 Atlas D Gantry, at Vandenberg Air Force Base, CA; Atlas D Launch Facility 565th SMS Complex A, outside Cheyenne, WY; and Atlas E Facility, in Weld County, CO. Evaluations of the relative significance and integrity of any extant Atlas launch facilities will help determine whether any meet NHL requirements.

B-29 Serial No. 45-21847 (Heavy Bomber), Clark County, NV. This bomber crashed in Lake Meade in 1948 while testing an experimental ICBM guidance system. It was listed in the National Register of Historic Places in 2011. A study of NHL eligibility is underway.

Bikini Atoll Nuclear Test Site, Marshall Islands, Pacific Ocean. Devastating damage resulted from nuclear detonation tests that were conducted between 1946 and 1959, including the first detonation of a hydrogen bomb. It was inscribed as a World Heritage Site in 2010.

Bush Compound, Kennebunkport, ME. This was the oceanfront vacation home of President George Herbert Walker Bush and his family, including his son, future President George W. Bush.

Camp David, Catoctin Mountains, MD. In addition to serving as a conveniently located retreat from White House living, Camp David has hosted important meetings of foreign leaders, U.S. officials, and White House staff.

La Casa Pacifica, San Clemente, CA. Better known by the name of the town where it is located, this was President Nixon's oceanfront "Western White House."

Cheyenne Mountain Complex, outside Colorado Springs, CO. This highly secure command and control center for the North American Aerospace Defense Command (NORAD) was carved into a granite mountain.

Defense Early Warning (DEW) Line, across Alaska and Canada. The DEW Line was a network of radar and communication facilities established to detect enemy bombers and ICBMs. Most DEW facilities have been demolished or modified, but the most intact examples might be at Point Barrow or Olitok, AK.

Nike Missile Facilities. Hundreds of Nike missile sites were built during the Cold War, and most no longer retain integrity. Extant Nike launch sites include: SF-88L Nike Site in Golden Gate National Recreation Area, CA; NM-69, Battery A Nike Site in Everglades National Park; the Site Summit Nike Site, AK; Porter County Nike Site in IN; and Fort Hancock and the Sandy Hook Proving Ground in Monmouth County, NJ. Evaluations of the relative significance and integrity of extant Nike facilities will help determine whether any meet NHL requirements.

General Purpose Laboratory (Building 9400), Camp Evans, Wall Township, NJ. This nondescript building was one of several seismic monitoring and air sampling stations in the United States to detect foreign nuclear tests, and it was also the site of a clash between Army security officers and Senator Joseph McCarthy and his aide Roy Cohn. It is a contributing resource within the Camp Evans National Register of Historic Places historic district (listed in 2002), and a noncontributing resource within the Camp Evans NHL historic district (it post-dates the NHL's period of national significance), which was designated an NHL in 2012.

Little White House, Key West Naval Base, Monroe County, FL. President Truman occupied this modest house during several extended visits to Key West. It was listed in the National Register of Historic Places in 1974. The Presidential Sites NHL theme study concluded that it was not on par with more significant Truman properties. If new analysis demonstrates that Truman's activities there elevate its relative significance beyond the conclusion of the earlier study, NHL consideration may be appropriate.

Nevada Test Site, Nye County, NV. Ninety per cent of the Nation's 1,000 nuclear test detonations were conducted within the boundaries of this Rhode Island-size property.

USS *New Jersey* (BB-62), Camden, NJ. In the decades following her World War II service, battleship *New Jersey* fired her 16-inch guns in combat during the Korean and Vietnam wars, and during Lebanon's Civil War in the early 1980s. She was listed in the National Register of Historic Places in 2004.

Office of Strategic Services (OSS)/Central Intelligence Agency (CIA) Headquarters, Washington, DC. During World War II, the OSS moved into one of the buildings clustered at 25th and E streets, NW. Its successor agency, the CIA, remained there until relocating to Virginia in 1961.

Pierce-Mill Barn, Rock Creek Park, DC. The attic of the Pierce Mill barn was secretly used by the FBI for electronic surveillance of nearby Soviet Bloc embassies. The property was listed in the National Register of Historic Places in 1973, and is an element of Rock Creek Park (NPS).

Presidential Bunkers for John F. Kennedy, Nantucket, MA and Peanut Island (Palm Beach), FL. These secret emergency bunkers were built within quick access from the president's vacation homes.

Rancho del Cielo, near Santa Barbara, CA. President Ronald Reagan frequented his vacation ranch in the Santa Ynez Mountains.

Raven Rock ("Site R"), near Waynesboro, PA. This secret emergency backup Pentagon was excavated under a mountain near the Maryland-Pennsylvania border to provide work space for 1,400 people; it became operational in 1953.

Julius and Ethel Rosenberg's Apartment, New York City, NY. The Rosenberg's eleventh floor apartment in this Chinatown building played a role in some of the activities for which they were convicted of espionage. Julius Rosenberg was arrested here in 1950.

Stanley R. Mickelson Safeguard Anti-Ballistic Missile Complex, near Grand Forks, ND. The only U.S. anti-ballistic missile complex, the 1970s building that housed the then-state-of-the art systems was recently sold at auction to a private organization.

Sedan Crater, Nevada Test Site, Nye County, NV. This 320-foot-deep, 1,280-foot-diameter crater was formed by a 1962 test that was part of the Atoms for Peace program's effort to explore using nuclear detonations to excavate earth in large construction projects. It was listed in the National Register of Historic Places in 1991.

Strategic Air Command Ground Alert Facility, Mountain Home Air Force Base, Mountain Home, ID. This is a good example of the specially designed ground alert facilities built in the early 1960s to allow on-alert SAC crew members to remain close to their armed and fueled bombers. A nomination has been prepared for review.

Strategic Air Command Headquarters, Offutt Air Force Base, NE. This ordinary-looking four-story above-ground office building, with its less-ordinary hardened, three-story below-ground portion, was built in 1957 as the headquarters for the Strategic Air Command.

USS *Turner Joy* (DD-951), Bremerton, WA. This destroyer was one of the two U.S. vessels that allegedly came under enemy attack in the Gulf of Tonkin in August 1964. Reports of the incident served to gain congressional authorization to expand U.S. involvement in Vietnam.

Units of the National Park System with Major Cold War Associations

- Korean War Memorial, DC
- Vietnam Veterans Memorial, DC
- Jimmy Carter National Historic Site, GA
- Harry S Truman National Historic Site, MO
- Eisenhower National Historic Site, PA
- Minuteman Missile National Historic Site, SD
- Lyndon B. Johnson National Historical Park, TX

Bibliography

This is a bibliography of secondary literature sources specifically related to inventories of Cold War–related sites, chosen in order to provide context for evaluating the relative significance of such sites and other resources.

The first section lists general works that give overviews of the history of the Cold War; the evolution of the nuclear weapons complex, including the creation, manufacture, and testing of those weapons; and the evolution of the aircraft and ballistic missile systems designed to deliver nuclear weapons to their targets, as well as the missile and radar systems designed to defend the United States.

Inventories of Cold War–related sites in the United States are presented in the second section. The inventories were compiled as part of a nationwide survey of sites primarily related to national defense, training, radar, missile systems, Air Force bases, research and development, and Navy guided-missile and communications systems.

The third section lists selected cultural resource management site reports and publications on related subjects. These reports typically contain overviews of the Cold War era in which the facility was constructed; historic contexts specific to each facility; and inventories of the buildings, sites, structures, objects, and districts related to the facility.

The bibliography and inventory are necessarily tentative because new studies and inventories are always forthcoming. Almost daily, new ones are completed, published, and posted to or removed from websites. The following listings include works available in one form or another. Researchers are encouraged to search the internet and to contact the relevant service branches, federal and state preservation offices, and military installations.

GENERAL

This is not intended to be a comprehensive list but rather a guide to selected works that provide a broad context for the Cold War era with regard to its history, weapons, and defense and delivery systems.

Berhow, Mark. *U.S. Strategic and Defensive Missile Systems, 1950–2004*. Oxford, UK: Osprey Publishing, 2005. The fixed-launch-site strategic and defensive missile systems of the United States are discussed and illustrated in this book.

Borstelman, Thomas. *The Cold War and the Color Line: American Race Relations in the Global Arena*. Cambridge, MA: Harvard University Press, 2003. The author describes how the Civil Rights Movement and the Cold War affected each other not only in the United States but on the global stage as the United States and the Soviet Union competed for influence in the nonwhite nations of the Middle East, Africa, and Asia. Juxtaposing related events at home and abroad, Borstelman illustrates the clash between American ideals of freedom with the lack of their application in the United States.

Boyer, Paul. *By the Bomb's Early Light: American Thought and Culture at the Dawn of the Atomic Age*. Chapel Hill: University of North Carolina Press, 1995. The author discusses the diverse reactions to the emerging nuclear era between 1945 and 1950. Specifically, he describes how the Bomb affected moral, religious, literary, scientific, and philosophical beliefs in a short period of time.

Bundy, McGeorge. *Danger and Survival: Choices about the Bomb in the First Fifty Years*. New York: Random House, 1988. Bundy, who served under presidents Kennedy and Johnson as a national security advisor, describes the choices that United States and Soviet leaders made regarding the development and use of atomic weapons. Writing during the last stages of the Cold War, Bundy was critical of President Ronald Reagan's "Star Wars" defensive system proposals.

Craig, Campbell, and Fredrik Logevall. *America's Cold War: The Politics of Insecurity*. Cambridge, MA: Harvard University Press, 2009. This study explores the connection between the Cold War and American domestic politics and economics. The authors argue that the Cold War lasted as long as it did in part because of American insecurities that resulted in the exaggeration of external threats, which in turn lead to misadventures that were extremely costly in terms of treasure and lives.

Fried, Richard M. *Nightmare in Red: The McCarthy Era in Perspective*. New York: Oxford University Press, 1990. The author presents a history of the anticommunist movement of the 1940s and 1950s, of which Senator Joseph McCarthy was a major but not the only important figure. McCarthy and others are presented within the context of the larger movement.

Gaddis, John Lewis. *The Cold War: A New History*. New York, NY: The Penguin Press, 2005. Gaddis, an eminent scholar of the Cold War, untangles the complex global history of the era in this concise study. The book provides a broad overview of the Cold War and the roles of American and Soviet leaders in its crucial events from the beginnings to the end.

Hales, Peter Bacon. *Atomic Spaces: Living on the Manhattan Project*. Urbana: University of Illinois Press, 1997. The author examines the cultural history of the effect of the Manhattan Project on the landscapes of Los Alamos, Oak Ridge, and Hanford. Subjects include site acquisitions, population displacements, the creation of new towns, and environmental consequences.

Herken, Greg. *The Winning Weapon: The Atomic Bomb in the Cold War, 1945–1950*. New York: Vintage Books, 1982. The author discusses American policies toward the development and use of nuclear weapons from the last months of World War II to the decision to build the hydrogen bomb. He contends that nuclear weapons failed as bargaining chips in diplomacy and led to the arms race between the United States and the Soviet Union.

Herring, George. *America's Longest War: The United States and Vietnam, 1950–1975*. 4th ed. New York: McGraw-Hill, 2001. The history of America's involvement in Vietnam, including its military, diplomatic, and political aspects, is the topic of this book.

Holloway, David. *Stalin and the Bomb: The Soviet Union and Atomic Energy, 1939–1956*. New Haven, CT: Yale University Press, 1994. Considered the authoritative book on the subject, it traces the development of the Soviet nuclear program from its prewar origins through World War II and the Cold War into the mid-1950s.

Kwon, Heonik. *The Other Cold War*. New York: Columbia University Press, 2010. According to the author, the global struggle known as the Cold War was not only a conflict between the two superpowers but also a simultaneous and slow dissolution of a complex political and social order that resulted in vicious civil wars that frequently had less to do with the global conflict than with local and regional changes.

LaFeber, Walter. *America, Russia and the Cold War, 1945–96*. New York: McGraw Hill, 1996. The author focuses on diplomacy between the United States and the Soviet Union and its role in the causes and consequences of the Cold War.

Lawrence, Mark A. *The Vietnam War: A Concise International History*. New York: Oxford University Press, 2008. In this brief but broad account, the author traces the history of the war from its origins in the rise of Vietnamese nationalism against French colonialism in the 1940s. He examines the motives of the Vietnamese, especially those who later fought against American troops, why Vietnam became such a focus of dispute among many other nations, how the Vietnamese insurgents ultimately attained their goals despite the efforts of more highly sophisticated opponents, and the war's legacy.

Leffler, Melvyn P. *A Preponderance of Power: National Security, the Truman Administration and the Cold War*. Stanford, CA: Stanford University Press, 1993. In this study, the author traces the development of national security policy during the Truman administration as the president and his advisors sought to use American power to create a global environment compatible with American interests. They also endeavored to counter the serious threats posed by Soviet forces in Eastern Europe and elsewhere in part through such initiatives as the Marshall Plan, the promotion of economic recovery in Japan, and the commitment of troops to defend South Korea.

———. *For the Soul of Mankind: The United States, the Soviet Union, and the Cold War*. New York: Hill and Wang, 2007. The author examines closely four lost opportunities to end the bipolar approach to the Cold War: the aftermath of World War II; the brief period after Stalin's death in 1953; after the 1962 Cuban Missile Crisis; and after the Helsinki Conference of 1975. In each case, the existing cycle of confrontation and fear continued because of ideological and political pressures. Finally, in the 1980s, Reagan, Bush, and Gorbachev broke the cycle by rejecting the policies that had confined their predecessors and ended the Cold War.

———, and Odd Arne Westad, eds. *The Cambridge History of the Cold War*. 3 vols. Cambridge, UK: Cambridge University Press, 2010. This expansive history is

international in scope and presents the global dynamics of the Cold War in the evolving geopolitical, ideological, economic, and socio-political environment of the twentieth century. It discusses demography, consumption, women, youth, science, technology, ethnicity, and race as they relate to the Cold War.

Leonard, Barry, ed. *History of Strategic Air and Ballistic Missile Defense, 1945–1972*. 2 vols. Washington, DC: Center of Military History, United States Army, 2005. This work analyzes the strategies that the United States and the Soviet Union each employed to defend against nuclear missile and aircraft attacks, and the missile and air defense systems that each side developed during the Cold War through 1972.

Loeber, Charles R. *Building the Bombs: A History of the Nuclear Weapons Complex*. 2nd ed. Albuquerque, NM: Sandia National Laboratories, 2005. This work gives a site-by-site history of the development of the nuclear weapons complex, including the research, testing, and manufacturing processes.

Logevall, Fredrik. *Choosing War: The Lost Chance for Peace and the Escalation of War in Vietnam*. Berkeley: University of California Press, 1999. The author contends that the American involvement in the Vietnamese conflict was far from inevitable but instead was the result of choices made by successive presidents and their advisors. Many of these men viewed the war in light of the Cold War and sought to prevent a successful communistic revolution in Southeast Asia. But many others preferred a negotiated peace to end a war that, by the critical decision year of 1964, had been going on for two decades. The reasoning behind choosing war when so many opportunities for peace were available is the theme of this study.

———, and Andrew Preston, eds. *Nixon in the World: American Foreign Relations, 1969–1977*. New York: Oxford University Press, 2008. The authors describe the effects of hysterical anticommunism and American military actions overseas, including the deaths, financial costs, and destabilized nations that were the consequences of the Cold War. The policies of the era resulted in the limiting of political debate, the authors argue, while placing the United States in the position of supporting repressive regimes.

Matlock, Jack. *Reagan and Gorbachev: How the Cold War Ended*. New York: Random House, 2005. The author, formerly an advisor to Reagan on Soviet and European affairs and twice the ambassador to the Soviet Union and Russia, offers an insider's view of the end of the Cold War and the relationship between Reagan and Gorbachev. He concludes that Reagan's surprising flexibility and Gorbachev's essential humanity contributed largely to the dissolution of the Soviet Union and the conclusion of the Cold War.

May, Elaine Tyler. *Homeward Bound: American Families in the Cold War Era*. New York: Basic Books, 2008. The 1950s is typically viewed as a period of idealized domestic tranquility, but the fears and tensions of the Cold War cast a shadow over this supposedly happy scene. The author argues that the withdrawal into the security of the home was a response to the era's political insecurities and that the conservative social norms of the time were related to Cold War policies.

May, Ernest R., and Philip D. Zelikow, eds. *The Kennedy Tapes: Inside the White House during the Cuban Missile Crisis*. Cambridge, MA: Harvard University Press, 1997. In the summer of 1962, President Kennedy had a taping system installed in the Oval Office and Cabinet Room. During the Cuban Missile Crisis that October, Kennedy secretly recorded the many meetings and conversations that occurred as the crisis evolved. The editors present a fascinating inside view of what may have been the most dangerous event of the Cold War, augmenting transcripts of the tapes with Soviet documents and the memoirs and notes of those involved.

Mills, David W. *Cold War in a Cold Land: Fighting Communism on the Northern Plains.* Norman: Oklahoma Press, 2015. This book covers some social history of the Cold War, including the economic impact of weapons systems—both when built and when (as with AMB) withdrawn. It also addresses the question of how much Cold War "trepidation" there was in Montana and the Dakotas.

Naftali, Timothy, and Aleksandr Fursenko. *"One Hell of a Gamble": Khrushchev, Castro and Kennedy, 1958–1964*. New York: Norton, 1997. The authors, one of whom is an American scholar and the other a Russian, utilize recently opened Soviet archives to illustrate the inner workings of the Politburo during the Cuban Missile Crisis. The result is the story of the crisis from the Soviet viewpoint.

Neufeld, Jacob. *The Development of Ballistic Missiles in the United States Air Force, 1945–1960*. Washington, D.C.: Office of Air Force History, 1990. This book is in print and is also available online at the Air Force Historical Studies Office website, https://www.afhistory.af.mil/Books/Titles/. Neufeld focuses on the first generation of ballistic missiles (Atlas, Titan, and Thor), and describes the difficult technological competition with the Soviets. The Air Force also had to overcome interservice rivalries, budgetary constraints, administrative complications, and engineering problems. This first series of long-range strategic missiles was the forerunner of the modern U.S. nuclear arsenal, especially Minuteman and cruise missiles.

Prados, John. *Vietnam: The History of an Unwinnable War, 1945–1975*. Lawrence: University Press of Kansas, 2009. The author presents a thorough history of the war that was in his judgment unwinnable for numerous reasons, among them the American presidents' failure to understand the limitations of their principal ally, the South Vietnamese government. With regard to the conflict in the context of the Cold War, Prados maintains that it remained more "an independent event on the periphery" than "part and parcel of the Cold War."

Sarotte, Mary. *1989: The Struggle to Create Post–Cold War Europe*. Princeton, NJ: Princeton University Press, 2009. The author argues that the fall of the Berlin Wall and the reunification of Germany basically reestablished a new version of the Cold War status quo—NATO versus post-Soviet Russia instead of the West versus the Soviet Union. She credits West German chancellor Helmut Kohl as the man who outmaneuvered other leaders to annex East Germany through adroit diplomacy and offers of aid to the collapsing Soviet economy.

Schaffel, Kenneth. *The Emerging Shield: The Air Force and the Evolution of Continental Air Defense, 1945–1960*. Washington, DC: U.S. Air Force Office of Air Force History, 1991. This book is in print and is also available online at the Air Force Historical Studies Office website, https://www.afhistory.af.mil/Books/Titles/. It traces the development of defenses to counter bomber attacks, the primary nuclear weapons delivery system before the advent of ICBMs in the 1960s. By the end of the 1950s, the defenses included an early warning radar network stretching across Alaska and Canada, as well as radar picket ships, ocean platforms, and ground observers. Defensive weapons included antiaircraft artillery and air-to-air and surface-to-air missiles. A computer-driven command and control system coordinated the defensive array. Over the decade, the defensive network, weapons, and control system evolved to meet new Soviet challenges until ICBMs became the principal threat.

Schrecker, Ellen. *Many Are the Crimes: McCarthyism in America*. Boston, MA: Little Brown, 1998. This study expands the concept of McCarthyism beyond merely the activities of Senator Joseph McCarthy to include various professional anticommunists who maneuvered federal officials into adopting their crusade to confound dissent with disloyalty.

Suri, Jeremi. *Power and Protest: Global Revolution and the Rise of Détente*. Cambridge, MA: Harvard University Press, 2005. Détente has been considered a strategic Western approach to Soviet power—agreeing to maintain the status quo to avoid instability. The author contends that social unrest in capitalist nations such as the United States and France as well as in communist countries such as China and Russia resulted in leaders everywhere withdrawing or withholding political power from the public or applying the principles of détente internally as well as internationally.

Titus, A. Costandina. *Bombs in the Backyard: Atomic Testing and American Politics*. Rev. ed. Reno: University of Nevada Press, 2001. This volume, which first appeared in 1986 and has been updated, focuses primarily on the Nevada Test Site and vicinity. It examines the effects of nuclear testing (especially radiation) affected the health of not only military personnel but also civilians and livestock downwind of the test site. The book also examines how the government, specifically the Pentagon, the Atomic Energy Commission, and the courts failed to inform, protect, and compensate the victims of atomic testing.

Warnock, A. Timothy, Daniel L. Haulman, Forrest L. Marion, and Jeffrey P. Sahaida (Frederick J. Shaw, ed.) *Locating Air Force Base Sites: History's Legacy*. Washington, DC: Air Force History and Museum Program, 2004, updated 2014. This book is available online at the Air Force Historical Studies Office website, https://www.afhistory.af.mil/Books/Titles/. It consists of a historic context tracing the history of Air Force bases from 1907 to 2011 and documents their changes in function over time. The historic context includes two chapters devoted to the Cold War era.

Westad, Odd Arne. *The Global Cold War*. Cambridge, UK: Cambridge University Press, 2007. The author shows how the global Cold War of the twentieth century laid the foundations for most of the next century's international conflicts, including the "war on

terror." Because the United States and the Soviet Union alike practiced interventionism in the Third World, they produced resentments that constitute the true legacy of the Cold War.

Wiener, Jon. *How We Forgot the Cold War: A Historical Journey Across America*. Berkeley: University of California Press, 2012. The subject of this book is the commemoration of the Cold War in America, including politically motivated battles over interpretation. Numerous sites are described and discussed, including monuments, museums, and memorials.

Wohlstetter, Albert. "The Delicate Balance of Terror." *Foreign Affairs* 37, No. 2 (January 1959): 211–234. The author argued that levels of deterrence could be achieved if would-be aggressors were presented with differing levels of risk rather than relying solely on massive retaliation as a strategy.

Zubok, Vladislav M. *A Failed Empire: The Soviet Union in the Cold War from Stalin to Gorbachev*. Chapel Hill: University of North Carolina Press, 2007. The author offers an interpretation of the Cold War from the Soviet side, which he maintains was neither as pragmatic nor as aggressive as Western interpretations have suggested. The backgrounds of the Soviet leaders, the experience of World War II, the quest for security and power, and the messianic ideology of Soviet communism all powerfully influenced Soviet actions during the Cold War. The author contends that the Soviet economic crises of the 1980s were a major factor in the regime's eventual collapse.

DEPARTMENT OF DEFENSE COLD WAR RESOURCES INVENTORY

Most of the service-wide inventories and contexts listed below were compiled under the auspices of the Department of Defense Legacy Resource Management Program, which the Defense Appropriations Act of 1991 established. One of the program's nine task areas is the Cold War Project, which seeks to "inventory, protect, and conserve [DoD's] physical and literary property and relics" associated with the Cold War. Some of the inventories and contexts were compiled as special projects by other federal agencies, or under the mandates of the National Historic Preservation Act of 1966. Documents devoted to guidance concerning resource management and recordation are also included. Some of these reports can be found on the internet, while others are in the files of federal or state historic preservation offices, or at the respective bases. Some may be found in libraries listed on the WorldCat website, http://www.worldcat.org, or for sale by the publishers, Amazon, or other book dealers.

Since the terrorist attacks of September 11, 2001, however, the Department of Defense and the armed services have reconsidered whether all of the information in these inventories should be publicly available. In some cases, it is likely that the researcher will find that inventories formerly available on the internet are no longer available, or that certain sections or chapters have been redacted.

Best, Brooke V., Katherine Grandine, and Stacie Y. Webb. *Navy Cold War Communication Context: Resources Associated with the Navy's Communication*

Program, 1946–1989. Frederick, MD: R. Christopher Goodwin and Associates, 1997. The study contains chapters on methodology, the history of the Navy's role in the Cold War communication program between 1946 and 1989, and property types associated with the Navy's shore-based communication program. It also includes a bibliography and an inventory of 37 sites associated with the communication program during the Cold War. Each entry includes the site name and location as well as a brief narrative history.

Best, Brooke V., Eliza H. Edwards, and Leo Hirrel. *Navy Cold War Guided Missile Context: Resources Associated with the Navy's Guided Missile Program, 1946–1989*. Frederick, MD: R. Christopher Goodwin & Associates, Inc., 1995. The context contains sections on methodology, a chronological overview, theme studies, property types, evaluation criteria, and treatment options. The study also contains a bibliography and several appendices, including an inventory of 39 installations associated with the Navy's Cold War guided-missile program, arranged alphabetically by state. Each entry gives the installation name and location, the period of significance, relevant themes, and a narrative overview of the installation and its functions.

Department of Defense Legacy Cold War Project. *Coming in from the Cold: Military Heritage in the Cold War*. Washington, DC: United States Government Printing Office, 1994. This report discusses the formation of the Cold War Task Area and its progress in fulfilling the mandates of the Defense Appropriations Act of 1991 for inventorying DoD Cold War sites and resources. At the end of the document is a useful timeline of the Cold War through 1991.

———. *Interim Guidance: Treatment of Cold War Historic Properties for U.S. Air Force Installations*. Washington, DC: United States Government Printing Office, 1993. This publication gives guidance for the treatment and preservation of Cold War properties and includes a preliminary list of property types.

Gaither, Steve. *Looking Between Trinity and the Wall: Army Materiel Command Cold War Material Culture within the Continental United States, 1945–1989*. Plano, TX: Geo-Marine, Inc., 1997. The study contains a Cold War historic context, a history of the Army Materiel Command and its predecessors, and the themes associated with the AMC during the Cold War. An appendix lists 313 Army Materiel Command–related sites, including housing areas, command centers, depots, arsenals, and manufacturing facilities.

Gregory, Carrie J., and Martyn D. Tagg. *Recording the Cold War: Identifying and Collecting Cold War Resources Data on Military Installations*. Tucson, AZ: Statistical Research, Inc., 2008. This is a Department of Defense Cold War Legacy project (07-285) to assist in identifying facilities and documentation, creating a systematic approach to compiling and analyzing data, and assessing costs for each project. For the purposes of the study, four Air Force bases were identified and analyzed: Davis-Monthan AFB, AZ; Hill AFB, UT; Kirtland AFB, NM; and Vandenberg AFB, CA. The introduction offers a useful history of the Legacy program and includes a list of contexts and inventories that had been completed by 2008.

Hoffecker, John F., Mandy Whorton, and Casey R. Buechler. *Cold War Historic Properties of the 21st Space Wing, Air Force Space Command*. Pensacola, FL: Cold War Workshop, Eglin Air Force Base, 1996. Available as a PDF file on the Department of Energy Scientific and Technical Information website at http://www.osti.gov/bridge/purl.cover.jsp;jsessionid=1B6E0E3B09E22469AD7C1339DD237CFE?purl=/211543-ifJ7vE/webviewable/. This brief (15-page) report describes generally the historic contexts and facilities at several air stations and bases: Cape Cod AS (MA), Cavalier AS (ND), Clear AS (AK), Eldorado AS (TX), Peterson AFB (CO), and Thule AB (Greenland).

Isemann, James L. "To Detect, To Deter, To Defend: The Distant Early Warning (DEW) Line and Early Cold War Defense Policy, 1953–1957." Ph.D. Diss. Manhattan, KS: Kansas State University, 2009. Available as a PDF file at the Kansas State University website, www.krex.k-state.edu/dspace/bitstream/2097/2161/1/JamesIsemann2009.pdf. This dissertation discusses the planning and construction of the system, which was designed ostensibly to protect the civilian population but more importantly to safeguard the Strategic Air Command's retaliatory-strike bombers. The chapter on construction contains descriptions, plans, and photographs of some of the main, auxiliary, and intermediate DEW Line stations.

Kuranda, Kathryn M., Katherine E. Grandine, Brian Cleven, Thomas W. Davis, and Nathaniel Patch. *Historic Context for Army Fixed-Wing Airfields, 1903–1989*. Frederick, MD: R. Christopher Goodwin & Associates, 2002. Available as a PDF file at the Air Combat Command (ACC) library, Langley Air Force Base, Virginia. The study contains a historic context for Army aviation from the earliest days through the end of the Cold War, focusing on changes in aircraft technology and airfield development. Selected property types at various bases are described and their integrity is discussed. Property types include landing fields, landing aids, radio buildings, operations buildings, flight control towers, fire stations, hangars and maintenance buildings, paint shops and storage buildings, general storage buildings, parachute buildings, aerial photography buildings, aircraft fuel storage facilities, and wash racks. Five case studies are offered in an appendix (Aberdeen Proving Ground, MD; Fort Hood, TX; Fort Rucker, AL; Fort Sill, OK; and Fort Stewart, GA), and another appendix lists sixty-five currently (2001) active Army airfields nationwide.

Kuranda, Kathryn M., Katherine E. Grandine, and Deborah K. Cannan. *Support and Utility Structures and Facilities (1917–1946): Overview, Inventory, and Treatment Plan*. Frederick, MD: R. Christopher Goodwin & Associates, 1995. Prepared for the Department of the Navy. Available as a PDF file at the Air Combat Command (ACC) library, Langley Air Force Base, Virginia. This study describes and inventories structures and facilities at both Navy and Army installations. Although most of the resources predate the Cold War, their use continued into the Cold War era.

Lavin, Mary K. *Thematic Study and Guidelines: Identification and Evaluation of U.S. Army Cold War Era Military-Industrial Historic Properties*. Fairfax, VA: Horne Engineering, 1998. The study contains a historic context of the Army's military-industrial history during the Cold War to provide the overview necessary to identify, evaluate, and

manage the Army's Cold War–related resources. Property types and facility types are identified, a list of Army posts is provided, and two timelines note the changes in the Army's organization and major events and Army activities during the Cold War.

Lewis, Karen, Katherine J. Roxlau, Lori E. Rhodes, Paul Boyer, and Joseph S. Murphey. *United States Air Force Air Combat Command and the Legacy of the Cold War: A Systemic Study of Air Combat Command Cold War Material Culture*. Laramie, WY: TRC Mariah Associates, Inc., 1995. Prepared for Headquarters, Air Combat Command, Langley Air Force Base, Virginia, and available at the ACC library as a PDF file containing three volumes. The first volume contains a historic context of the Cold War and its effects on the United States, especially on the nation's air defense system. The second volume contains baseline inventories of Cold War material culture at twenty-seven Air Force bases (*see also* Karen J. Weitze, *Cold War Infrastructure for Air Defense: The Fighter and Command Missions* below). The bases are: Barksdale AFB, LA; Beale AFB, CA; Cannon AFB, NM; Castle AFB, CA; Davis-Monthan AFB, AZ; Dyess AFB, TX; Ellsworth AFB and Badlands AFR, SD; Fairchild AFB, WA; Griffiss AFB, NY; Holloman AFB and Melrose AFR, NM; Homestead AFB, FL; Howard AFB and Balboa AFR, Panama; K. I. Sawyer AFB, MI; Langley AFB, VA; Little Rock AFB, AK; Loring AFB, ME; MacDill AFB and Avon Park AFR, FL; McConnell AFB, KS; Minot AFB, ND; Moody AFB and Grand Bay AFR, GA; Mountain Home AFB and Saylor Creek AFR, ID; Nellis AFB, NV, and Cuddeback AFR, CA; Offutt AFB, NB; Pope AFB, NC; Seymour Johnson AFB and Dare County AFR, NC; Shaw AFB and Poinsett AFR, SC; Whiteman AFB, MO. The third volume contains a summary report and final programmatic recommendations relating to the resources on each base that are potentially eligible for nomination to the National Register of Historic Places.

Lonnquest, John C., and David F. Winkler. *To Defend and Deter: The Legacy of the United States Cold War Missile System*. Washington, DC: Department of Defense, Legacy Resource Management Program Cold War Project, 1996. The study contains a history of the Cold War missile system, descriptions of the various defensive and ballistic missile systems, a history of missile development and deployment sites, a chronology, a bibliography, and a state-by-state inventory of intercontinental ballistic missile and air defense missile sites. Each inventory entry includes the site name, missile type, installation, site location, military service branch, dates of active service, and current status (as of 1996).

Louis Berger Group, Inc. *Historic Context Statement: The United States Navy in the Cold War*. Draft. Morristown, NJ: Louis Berger Group, Inc., 2009. This report was compiled in compliance with provisions of the National Historic Preservation Act of 1966 and contains a two-part historic context. The first section is an overview of the Cold War and the role of the Chief of Naval Operations in the Navy's approach to countering the Soviet threats. The second section focuses on the Navy's strategic responses to developments in terms of the "platforms" employed for deterrence, control of the seas, communications, and intelligence. The appendix presents a list of property types (excluding objects such as aircraft, missiles, and vessels) and recommendations for evaluating integrity and National Register of Historic Places significance.

Morgan, Mark L., and Mark A. Berhow. *Rings of Supersonic Steel: Air Defenses of the United States Army 1950-1979, An Introduction And Site Guide*. 2nd ed. Bodega Bay, CA: Hole in the Head Press, 2002. This study is available from the publisher; a 3rd edition is forthcoming. An excerpt from the book may be seen on the Google Books website at http://books.google.com/books?id=vagljMKPYrkC&pg=PP3&dq=Mark+Morgan+Nike+Quick+Look&hl=en&ei=LFtUTeT1Gsqr8AaAk8D6CA&sa=X&oi=book_result&ct=result&resnum=1&sqi=2&ved=0CDYQ6AEwAA#v=onepage&q=Mark%20Morgan%20Nike%20Quick%20Look&f=false. The extract contains historic contexts for various installations as well as photographs, maps, diagrams, and other graphic materials.

Morrison, Dawn A., and Susan I. Enscore. *The Built Environment of Cold War Era Servicewomen*. Washington, DC: Department of Defense, Legacy Resource Management Program Cold War Project, 1996. The study presents a service-wide historic context showing how the accommodation of women into the armed services affected the military's built environment. It presents several property types, largely related to housing, and includes plans and drawings.

Murdock, Scott D., Mikel Travisano, Marsh Prior, and Julian Adams. *Over-the-Horizon Backscatter Radar Network: Maine, Idaho, Oregon, and California*. Seattle, WA: Historic American Engineering Record, 2008. HAER No. ME-98. Available as a PDF file at the Air Combat Command (ACC) library, Langley Air Force Base, Virginia; not available online. This study contains photographs, historic contexts, descriptions, and significance statements for buildings and other radar facilities.

Pedrotty, Michael A., Julie L. Webster, and Aaron R. Chmiel. *Historical and Architectural Overview of Military Aircraft Hangars; A General History, Thematic Typology, and Inventory of Aircraft Hangars Constructed on Department of Defense Installations*. Champaign, IL: U.S. Army Construction Engineering Research Laboratories, 1999. Prepared for Headquarters, Air Combat Command (ACC), Langley Air Force Base, Virginia. The study's objectives were to identify and describe principal hangar types constructed before 1996; to document the origins, locations, and numbers of hangars; and to provide a context for understanding the aviation and construction history of the major hangar types. The report includes a historic context through the Cold War era, a database of military hangars, and standard hangar drawings. The hangar database (Appendix A) includes Air Force, Army, Marine Corps, and Navy installations nationwide. The database is presented twice: sorted alphabetically by service and location; sorted by date of construction through 1996.

Shiman, Philip, and Julie L. Webster. *Forging the Sword: Defense Production during the Cold War*. Champaign, IL: U.S. Army Construction Engineering Research Laboratories, 1997. Written under the auspices of the Cold War Task Area, this work provides a historic context for the defense industry from its expansion for World War II through the end of the Cold War. It includes a bibliography and a state-by-state inventory of 64 DoD-owned industrial facilities. Each inventory entry gives the facility's name and location, a brief history including changes in function or product, and a list of sources.

Temme, Virge J. *For Want of a Home: A Study of Wherry and Capehart Military Family Housing*. Aberdeen Proving Ground, MD: Army Environmental Center, 1998. This historic context study is available from the U.S. Army Environmental Center, ATTN: SFIM-AEC- CDC, 5179 Hoadley Road, Aberdeen PG, MD 21010-5401, and is not posted online. It was written as part of the 1990s Department of Defense review of the history of the Cold War era. The U.S. Army contracted with the Construction Engineering Research Laboratory (CERL), U.S. Army Corps of Engineers, to prepare this study of Wherry and Capehart housing at military installations nationwide. The buildings were constructed during the period 1949–1964 in a military-private partnership with development firms, to provide desperately needed housing for military families. During the programs' lifespan, about 250,000 units were constructed; about 175,000 remained in existence in 1994.

Thompson, Scott, and Martyn D. Tagg. *Identification and Categorization of Cold War–Era Research, Development, Testing, and Evaluation Property Types*. Tucson, AZ: Statistical Research, Inc., 2007. Prepared for Headquarters, Air Force Materiel Command, Wright-Patterson Air Force Base, OH, and available at the Headquarters, Air Combat Command (ACC), Langley Air Force Base, Virginia, library as a PDF file. This is a Department of Defense Cold War Legacy project (04-211) to advise in identifying and classifying research, development, testing, and evaluation (RTD&E) property types to supplement the types listed in the 1993 DoD publication, *Interim Guidance: Treatment of Cold War Historic Properties for U.S. Air Force Installations* (noted above). For this study, the authors conducted research to identify property types (buildings, structures, and sites) at nine Air Force, Army, and Navy installations: Aberdeen Proving Ground, MD; Arnold AFB, TN; Dugway Proving Ground, UT; Edwards AFB, CA; Hill AFB, UT; Holloman AFB, NM; Naval Air Weapons Station, China Lake, CA; Wright-Patterson AFB, OH; and Yuma Proving Ground, AZ. The resulting list of property types is to be used at all DoD RTD&E installations for consistent categorization as future inventories of Cold War–era resources are undertaken.

Weitze, Karen J. *Cold War Infrastructure for Strategic Air Command: The Bomber Mission*. Sacramento, CA: KEA Environmental, Inc., 1999. Prepared for Headquarters, Air Combat Command (ACC), Langley Air Force Base, Virginia, and available at the ACC library as a PDF file; not available on-line. This report includes abstracts by installation of alert facilities and infrastructure discussed within an illustrated context of several property types and categories, including hangars, airfields, and related structures. Recommendations are presented for resource management, including inventory and documentation suggestions. The bibliography lists available inventories of Cold War material culture at thirty-four Air Force bases (*see also* Karen Lewis et al., *A Systemic Study of Air Combat Command Cold War Material Culture* above). The bases are: Andrews AFB, MD; Barksdale AFB, LA; Beale AFB, CA; Cannon AFB, NM; Castle AFB, CA; Charleston AFB, SC; Davis-Monthan AFB, AZ; Dover AFB, DE; Dyess AFB, TX; Ellsworth AFB, SD; Fairchild AFB, WA; Grand Forks AFB, ND; Griffiss AFB, NY; Holloman AFB, NM; Homestead AFB, FL; Howard AFB, Panama; K. I. Sawyer AFB, MI; Langley AFB, VA; Little Rock AFB, AK; Loring AFB, ME; MacDill AFB, FL; McChord AFB, WA; McConnell AFB, KS; Minot AFB, ND; Moody AFB, GA;

Mountain Home AFB, ID; Nellis AFB, NV; Offutt AFB, NB; Pope AFB, NC; Scott AFB, IL; Seymour Johnson AFB, NC; Shaw AFB, SC; Travis AFB, CA; Whiteman AFB, MO. Information in this study is updated and expanded in *Historic Facilities Groups* (2010) below.

———. *Cold War Infrastructure for Air Defense: The Fighter and Command Missions*. Sacramento, CA: KEA Environmental, Inc., 1999. Available as a PDF file at the Mobile Military Radar website, www.mobileradar.org/Documents/1999-11-02132.pdf. Prepared for Headquarters, Air Combat Command, Langley Air Force Base, Virginia, this report includes abstracts by installation of fighter and command-and-control alert facilities and infrastructure discussed within an illustrated context of seven property types. Recommendations are presented for resource management, including inventory and documentation suggestions. The bibliography lists available inventories of Cold War material culture at thirty-four Air Force bases (*see also* Karen Lewis et al., *A Systemic Study of Air Combat Command Cold War Material Culture* above). The bases are: Andrews AFB, MD; Barksdale AFB, LA; Beale AFB, CA; Cannon AFB, NM; Castle AFB, CA; Charleston AFB, SC; Davis-Monthan AFB, AZ; Dover AFB, DE; Dyess AFB, TX; Ellsworth AFB, SD; Fairchild AFB, WA; Grand Forks AFB, ND; Griffiss AFB, NY; Holloman AFB, NM; Homestead AFB, FL; Howard AFB, Panama; K. I. Sawyer AFB, MI; Langley AFB, VA; Little Rock AFB, AK; Loring AFB, ME; MacDill AFB, FL; McChord AFB, WA; McConnell AFB, KS; Minot AFB, ND; Moody AFB, GA; Mountain Home AFB, ID; Nellis AFB, NV; Offutt AFB, NB; Pope AFB, NC; Scott AFB, IL; Seymour Johnson AFB, NC; Shaw AFB, SC; Travis AFB, CA; Whiteman AFB, MO. Information in this study is updated and expanded in *Historic Facilities Groups* (2010) below.

———. *Historic Facilities Groups at Air Combat Command Installations: A Comparative Evaluation of Selected Resources USAF-Wide*. Plano, TX: Geo-Marine, Inc., 2010. Prepared for Headquarters, Air Combat Command (ACC), Langley Air Force Base, Virginia, and available at the ACC library as a PDF file; not available online. The study focuses primarily on the first half of the Cold War and on three prominent programs: Strategic Air Command (SAC) bomber alert, Air Defense Command fighter-interceptor squadron (FIS) alert, and special weapons stockpile sites and operational storage. The work is divided into two parts (SAC alert and FIS alert) and lists and evaluates (with photographs) various sites for potential National Register of Historic Places listing. A classified appendix treating nuclear weapons storage sites is a stand-alone document (not included).

———. *Keeping the Edge: Air Force Materiel Command Cold War Context (1945–1991)*. 3 vols. San Francisco, CA: EDAW, Inc., 2003. Available as a PDF file at the Air Combat Command (ACC) library, Langley Air Force Base, Virginia; not available online. Volume 1 (Command Lineage, Scientific Achievement, and Major Tenant Missions) contains a Cold War historic context and the history of the Air Force Materiel Command and its evolving missions. Volume 2 (Installations and Facilities) focuses on selected Air Force bases, their missions, and key facilities. The bases include Arnold, Brooks, Edwards, Eglin, Hanscom, Hill, Kelly, Kirtland, Los Angeles, McClellan, Robins, Tinker, Wright-Patterson, and the Air Force Research Laboratory in Rome, NY.

Volume 3 contains the index to Volumes 1 and 2. John C. Lonnquest began the predecessor to this study in the 1990s under the tentative title of *Developing the Weapons of War: Military Research and Development, Test and Evaluation (RDT&E) during the Cold War*. Lonnquest's study was preliminary because of lack of funding; *Keeping the Edge* is the product of new research and writing.

Winkler, David F. *Searching the Skies: The Legacy of the United States Cold War Defense Radar Program*. Langley Air Force Base, VA: Headquarters Air Combat Command, 1997. This work presents a historic context for the use of radar in air defense, beginning with earlier methods in 1918 and continuing through World War II and the Cold War to 1994. A myriad of systems and networks, such as the DEW Line, are discussed. The study includes a bibliography and a state-by-state inventory of about 300 sites of all types. Each inventory entry gives the name and location of the site and a brief narrative history that includes the radar type used at the site.

———. *Training to Fight: Training and Education during the Cold War*. Washington, DC: Department of Defense, Legacy Resource Management Program Cold War Project, and United States Air Force Air Combat Command, 1997. The study provides a historic context for military training throughout American history to the end of the Cold War (1989). Its focus is primarily on four training areas: indoctrination, technical, skill and readiness, and professional military education. A bibliography is provided, as well as a state-by-state inventory of 167 training and education sites. Each inventory entry gives the name and location of the site, as well as a brief history that includes the training function, and a short list of sources.

CULTURAL RESOURCE MANAGEMENT SITE REPORTS, SPECIFIC CONTEXT STUDIES, AND NATIONAL HISTORIC LANDMARKS NOMINATIONS

This section is intended to provide the researcher with an overview of the variety of site-specific cultural resource management reports that are available for study. Some of these reports can be found on the internet, while others are in the files of federal or state historic preservation offices, or at the respective bases. Some may be found in libraries listed on the WorldCat website, http://www.worldcat.org, or for sale by Amazon or other book dealers. This section should be regarded as a sampling of the reports that are available. Several of the studies are annotated here. One draft (Lauber) and one final (Stumpf) National Historic Landmarks nominations also are included to serve as examples.

Altschul, Jeffrey H., and Steven D. Shelley. *Cultural Resources Inventory of Eight Titan Missile Silos in the Greater Tucson Area, Pima County, Arizona*. Tucson, AZ: Statistical Research, Inc., 1987. Available as a PDF file at the Air Combat Command (ACC) library, Langley Air Force Base, Virginia; not available online.

Corbett, Michael. *Architectural Study of Beale Air Force Base, Yuba County, California: A Preliminary Survey and Historical Overview of World War II and Cold War Era Properties*. Chico, CA: Dames and Moore, Inc., 1994. Available as a PDF file at the Air Combat Command (ACC) library, Langley Air Force Base, Virginia; not available

online. This draft study includes a historical overview of Beale AFB and a tabular inventory and evaluation of buildings.

Denfeld, D. Colt, Jennifer Abel, and Dale Slaughter. *The Cold War in Alaska: A Management Plan for Cultural Resources, 1994–1999*. N.p., AK: U.S. Army Corps of Engineers, Alaska District, 1994.

Department of Energy. *Cultural Resource Management Plan, DOE Oak Ridge Reservation, Anderson and Roane Counties, Tennessee*. Washington, DC: U.S. Department of Energy, 2001. This report includes a history of the nuclear facilities at Oak Ridge from the Manhattan Project through the Cold War. It also focuses in detail on the most-significant facilities that contribute to the interpretation of the history of Oak Ridge.

————. *Linking Legacies: Connecting the Cold War Nuclear Weapons Production Process to Their Environmental Consequences*. Washington, DC: U.S. Department of Energy, 1997. This volume gives an overview of the different aspects of nuclear weapons production in the Cold War, from uranium mining, fuel fabrication, reactor operations and production of fissile materials, to waste management. It also addresses the nature and extent of environmental contamination at nuclear production sites.

Engel, Jeffrey A., Christina Slattery, Mary Ebeling, Erin Pogany, and Amy R. Squitieri. *The Missile Plains: Frontline of America's Cold War*. Historic Resource Study, Minuteman Missile National Historic Site, South Dakota. Washington, DC: National Park Service, 2003. The study contains a Cold War historic context that includes the history of the development and construction of the site, photographs, and the National Register of Historic Places nomination for the launch and control facilities in an appendix.

Enscore, Susan, Adam Smith, and Sunny Stone. *Fort Bliss Main Post Early Cold War BASOPS Building Inventory and Evaluation, 1951–63*. Fort Bliss, TX: Conservation Division, Directorate of Environment, 2006. This report includes inventories (with photographs, maps, and drawings) of 160 Base Operations (BASOPS) buildings constructed at Fort Bliss Main Post between 1951 and 1963. Recommendations for eligibility for nomination to the National Register of Historic Places (NRHP) were made based on the significance of the buildings and their relative integrity. Because previous studies have identified the Fort Bliss properties that are directly related to exceptionally important Army Cold War activities, this report focuses on future determinations of eligibility for nomination to the NRHP.

Fulton, Jean, and Sonya Cooper. *"Full Moral and Material Strength": The Early Cold War Legacy at Holloman Air Force Base, New Mexico (ca. 1950–1960)*. Holloman Air Force Base, NM: Holloman Air Force Base, Cultural Resources Publication No. 6, 1996. Available as a PDF file at the Air Combat Command (ACC) library, Langley Air Force Base, Virginia; not available online. The study contains a World War II and Cold War–Era historic context for the base, as well as photographs, inventory forms, and evaluations of seventy-three buildings of which eleven were considered eligible for the National Register of Historic Places.

Hach, Steve. *Cold War in South Florida: Historic Resource Study*. Atlanta, GA: National Park Service, 2004. Available as a PDF file on Ed Thelen's website, http://ed-thelen.org/AirDefenseSouthFlorida.pdf. The study contains an overview of the Cold War and associated activities in South Florida, a list of related historic resources including HAWK and Nike missile sites, suggestions for further research, and a brief history of air defense in South Florida.

Herdrich, David J. *A Cultural Resource Assessment of the Ellsworth Air Force Base Minuteman II Missile Range in Butte, Haakon, Jackson, Lawrence, Meade, Pennington, and Perkins Counties, South Dakota*. Champaign, IL: U.S. Army Construction Engineering Research Laboratories, 1994. Available as a PDF file at the Air Combat Command (ACC) library, Langley Air Force Base, Virginia; not available online. This report concerns an archaeological survey carried out as the missile sites were being deactivated.

Historic American Engineering Record. "Rabbit Creek White Alice Site, Anchorage, Alaska, HAER AK-23." Washington, DC: National Park Service, 1987[?]. This report and others like it, sometimes with photographs and plans, can be accessed by searching the Library of Congress Prints and Photographs Online Catalog at www.loc.gov/pictures/.

Hoisington, Daniel J. *Cultural Resource Survey Report: The Cold War Era at Offutt Air Force Base*. Tellus Consultants for USAF Air Combat Command. Washington, DC: National Park Service, 1997. Available at the Air Combat Command (ACC) library, Langley Air Force Base, Virginia. This survey recommends the establishment of a Looking Glass Project Historic District. Approximately 100 photographs and drawings can be accessed by searching the Library of Congress Prints and Photographs Online Catalog at www.loc.gov/pictures/.

Kendrick, Gregory. *Last Line of Defense: Nike Missile Sites in Illinois*. Denver, CO: National Park Service, 1996. Available as a PDF file at the Air Combat Command (ACC) library, Langley Air Force Base, Virginia; also available online at Ed Thelen's Nike Missile website, http://ed-thelen.org/last-line.html. The study contains a Cold War historic context, a history of the development and deployment of the Nike system, and detailed descriptions of housing, administrative, and support buildings as well as of the battery control and launch areas at two Nike missile bases: C-84 and SL-40 in Illinois, near Barrington and Hecker, respectively.

———. *The Minuteman Missile*. Denver, CO: National Park Service, 1995. Available as a PDF file at the Air Combat Command (ACC) library, Langley Air Force Base, Virginia; not available online. This study preceded the creation of Minuteman Missile National Historic Site, South Dakota, in 1999. The study contains a history of the Minuteman system, site descriptions, environmental and socioeconomic assessments, and alternatives for preservation and visitor center locations.

Kise Franks and Straw, Inc. *Vint Hill Farms Station, Warrenton, Fauquier County, Virginia: Phase I Cultural Resource Investigations Report*. Philadelphia, PA: Kise Franks and Straw, Inc., 1994. Available at the Virginia Department of Historic Resources,

Richmond, VA; not available online. This report presents the historic context of Vint Hill Farms Station (ca. 1860–1991) and its functions as a farm, field monitoring station during World War II and afterward, and intelligence-equipment research and development center during the Cold War. A total of sixty buildings were inventoried, as well as two prehistoric archaeological sites.

Lauber, John F. "Minuteman ICBM National Historic Landmark, Ellsworth Air Force Base, SD." Draft National Historic Landmark Nomination. Minneapolis, MN: Hess, Roise and Co., 1994. Available as a PDF file at the Air Combat Command (ACC) library, Langley Air Force Base, Virginia; not available online.

Lowe, James A., Lori E. Rhodes, and Katherine J. Roxlau. *Mountain Home Air Force Base Cold War Material Culture Inventory*. Albuquerque, NM: Mariah Associates, Inc., 1995. Available as a PDF file at the Air Combat Command (ACC) library, Langley Air Force Base, Virginia; not available online. The report includes a Cold War historic context for the base, as well as some discussion of property types; the detailed inventory was not included.

Marceau, T. E., D. W. Harvey, and D. C. Stapp. *Hanford Site Historic District: History of the Plutonium Production Facilities, 1943–1990*. Columbus, OH: Battelle Press, 2003. This volume discusses the history of the Hanford site from its construction during the Manhattan Project to its continued activities during the Cold War. It includes information on the facilities, the workforce, historic preservation, and other topics.

Mattson, Wayne O., and Martyn D. Tagg. *"We Develop Missiles, Not Air!": The Legacy of Early Missile, Rocket, Instrumentation, and Aeromedical Research Development at Holloman Air Force Base*. Holloman Air Force Base, NM: Holloman Air Force Base, Cultural Resources Publication No. 2, 1995. Available as a PDF file at the Air Combat Command (ACC) library, Langley Air Force Base, Virginia; not available online. This publication is the result of a Department of Defense Cold War Legacy–funded project, the Thematic Study of Early Missile, Instrumentation, and Test Objects Project (Legacy No. 767). The study was designed as a demonstration project to begin the identification and documentation of such sites on Holloman AFB lands. The various property types associated with missile and rocket complexes, instrumentation facilities, and aeromedical research laboratories are described, together with historic contexts. The property types are analyzed for potential National Register of Historic Places eligibility. Cultural resource management considerations are also presented.

McCullough, Roy, and Patrick Nowlan. *Cold War Properties Evaluation, Phase III, Inventory and Evaluation of Atlas, Titan, BOMARC and Blue Scout Junior Launch Facilities at Vandenberg Air Force Base, California*. Champaign, IL: Tri-Services Cultural Resources Research Center, U.S. Army Construction Engineering Research Laboratories, 1997. Available in hard copy at Vandenberg Air Force. Facility 1788 Atlas D Gantry and supporting buildings are among the resources surveyed but not recommended as eligible for listing in the National Register of Historic Places (not 50 years old at the time of the survey). Recently, however, in a Section 106 consultation Vandenberg AFB and the CA SHPO agreed that the gantry, which is associated with the

early Atlas ICBMs, is eligible. During Khrushchev's visit to the United States in 1959, amid concerns that a "missile gap" existed, the Soviet leader's train passed through Vandenberg AFB so that he could see the missiles on their launch pads. Because of its association with this event, the gantry—the only one surviving of the three on Khrushchev's route—may be potentially eligible for designation as a National Historic Landmark.

Murphey, Joseph. *McGuire Air Force Base, New Jersey: Supplement to Reconnaissance Survey of Cold War Properties, McGuire Air Defense Missile Site, New Egypt, New Jersey*. Plano, TX: Geo-Marine, Inc., 1998. Available in hard copy at the Air Combat Command (ACC) library, Langley Air Force Base, Virginia, and likely at Travis AFB; not available online. The report was prepared as U.S. Air Force Air Mobility Command Cold War Series Report of Investigations Number 8-A. This series was completed as a single project, a combined command-wide inventory and context of real property surveys and evaluations conducted at selected installations in the United States to identify potentially significant Cold War–related buildings and structures. It is part of a reconnaissance survey of Cold War properties conducted at McGuire AFB that found one group eligible for nomination to the National Register of Historic Places: the SAGE (Semi-Automated Ground Environment) complex. All of the buildings in the complex were of less than fifty years of age when the report was prepared. The site, which retains sufficient integrity to justify its eligibility as a district, is considered exceptionally significant for its associations with Cold War technology. The period of significance is 1959–1972.

Nolte, Kelly, Mark A. Steinback, and Amber L. Courselle. *Military Historic Context Emphasizing the Cold War Including the Identification and Evaluation of Above Ground Cultural Resources for Thirteen Department of Defense Installations in the State of Georgia.* Fort Benning, GA: Fort Benning Military Reservation and Department of Defense Legacy Resource Management Program, 2006. The report contains historic contexts and descriptions of property types by service branch for the following installations: Fort McPherson (1885), Fort Benning (1918), Fort Stewart (1940), Hunter Army Air Field (1940), Moody Air Force Base (1940), Fort Gillem (1941), Robins Air Force Base (1941), Fort Gordon (1941), Naval Air Station Atlanta (1941), Dobbins Air Reserve Base (1942), Marine Corps Logistics Base Albany (1952), Naval Supply Corps School Athens (1954), and Naval Submarine Base Kings Bay (1978).

Price, Kathy. *Northern Defenders: Cold War Context of Ladd Air Force Base, Fairbanks, Alaska, 1947–1961*. Fort Collins, CO: Center for Ecological Management of Military Lands, 2001. The study provides a historic context for Ladd AFB before it became Fort Wainwright in 1961. A bibliography and a building-by-building inventory are included.

Reed, Mary Beth, and Mark Swanson. *Evaluation of Selected Cultural Resources at Fort Monmouth, New Jersey: Context for Cold War Era, Revision of Historic Properties Documentation, and Survey of Evans Area and Sections of Camp Charles Wood*. Stone Mountain, GA: New South Associates, 1996. The report includes the historic contexts noted in the title, plans and drawings, a bibliography, and an inventory of significant buildings.

Sackett, Russell, Brian Knight, Sue Sitton, and Martha Yduarte. *Fort Bliss Integrated Cultural Resources Management Plan, 2008–2012*. Ft. Bliss, TX: Conservation Branch, Directorate of Public Works, 2008. The report contains a historic context for Fort Bliss through the Cold War, the management plan, an inventory of sites, and descriptions (including photographs and maps) of several proposed historic districts.

Spradlin, Carla, Richard Bierce, and Virge J. Temme. *Historical and Architectural Documentation Reports of Patrick Air Force Base, Cocoa Beach, Florida*. Champaign, IL: Tri-Services Cultural Resources Research Center, 1994. Available as a PDF file at the Air Combat Command (ACC) library, Langley Air Force Base, Virginia; not available online. The report contains a Cold War historic context for the base as well as HABS/HAER reports and evaluations for 150 buildings.

Stumpf, David K. "Titan II ICBM Missile Site 8." National Historic Landmark Nomination. Tucson, AZ: Tucson Air Museum Foundation, 1993. Available as a PDF file at the National Archives website, https://catalog.archives.gov/id/75609550.

Swanson, Mark, and Lisa D. O'Steen. *Evaluation of Selected Historic Properties at Vint Hill Farms Station: Testing of Archaeological Site 44FQ137, Preparation of Civil War Context, and Development of Cold War Context*. Stone Mountain, GA: New South Associates, 1995. Available at the Virginia Department of Historic Resources, Richmond, VA; not available online. This report presents a detailed description of a prehistoric archaeological site as well as a Civil War and Cold War historic context for Vint Hill Farms Station. During the Cold War era (1946–1989), 203 buildings were constructed at the installation. The report contains a buildings and structures inventory.

Tagg, Martyn D., Sonya Cooper, and Jean Fulton. *"Airplanes, Combat and Maintenance Crews, and Air Bases": The World War II and Early Cold War Architectural Legacy of Holloman Air Force Base (ca. 1942–1962)*. Holloman Air Force Base, NM: Holloman Air Force Base, Cultural Resources Publication No. 6, 1998. The report contains both a general historic context for the World War II and the Cold War eras and a specific context for Holloman AFB during those eras. It also enumerates four building types (operational and support installations, combat weapons and support systems, training facilities, and material development facilities) associated with the base during those eras, discusses them in light of the historic contexts, and evaluates them for potential National Register of Historic Places eligibility.

Temme, Virge J., David Dubois, David Winkler, John Lonnquest, and Aaron Chmiel. *Historical and Architectural Documentation Reports of Calumet Air Force Station, Calumet, Michigan*. Champaign, IL: Tri-Services Cultural Resources Research Center, 1995. Available as a PDF file at the Air Combat Command (ACC) library, Langley Air Force Base, Virginia; not available online. The report contains a Cold War historic context for the station as well as HABS/HAER reports and evaluations for 108 buildings.

———. *Historical and Architectural Documentation Reports of Havre Air Force Station, Havre, Montana*. Champaign, IL: Tri-Services Cultural Resources Research Center, 1995. Available as a PDF file at the Air Combat Command (ACC) library,

Langley Air Force Base, Virginia; not available online. The report contains a Cold War historic context for the station as well as HABS/HAER reports and evaluations for seventy-two buildings.

———, David Dubois, David Winkler, John Lonnquest, and James Eaton. *Historical and Architectural Documentation Reports of Gibbsboro Air Force Station, Gibbsboro, New Jersey*. Champaign, IL: Tri-Services Cultural Resources Research Center, 1995. Available as a PDF file at the Air Combat Command (ACC) library, Langley Air Force Base, Virginia; not available online. The report contains a Cold War historic context for the station as well as HABS/HAER reports and evaluations for sixteen buildings.

Temme, Virge J., David Winkler, and John Lonnquest. *Historical and Architectural Documentation Reports of Finley Air Force Station, Finley, North Dakota*. Champaign, IL: Tri-Services Cultural Resources Research Center, 1995. Available as a PDF file at the Air Combat Command (ACC) library, Langley Air Force Base, Virginia; not available online. The report contains a Cold War historic context for the station as well as HABS/HAER reports and evaluations for thirty-five buildings.

Ullrich, Rebecca Ann, and Michael Anne Sullivan. *Historic Context and Buildings Assessments for the Lawrence Livermore National Laboratory and Built Environment*. Livermore, CA: Lawrence Livermore National Laboratory and Sandia National Laboratories, 2007. The report contains a historic context for the laboratory and evaluations of buildings at the site.

Waddell, Karen. *Cold War Historical Context, 1951–1991, Fort Richardson, Alaska, United States Army Alaska*. Fort Collins, CO: Colorado State University, 2003. The report contains a historic context for Fort Richardson from WWII through the Cold War. It also includes a discussion of property types and themes, maps, a list of buildings, and a detailed timeline for the Cold War and important dates in the history of Fort Richardson.

Webster, Julie, Megan Tooker, Dawn Morrison, Susan Enscore, Suzanne Loechl, and Martin Stupich. *Fort Hood Building and Landscape Inventory with WWII and Cold War Context*. Champaign, IL: Construction Engineering Research Laboratory, 2007. Available as a PDF file through the Defense Technical Information Center website, https://discover.dtic.mil/. The report contains inventories and evaluations of 463 buildings and landscapes constructed or created at Fort Hood (including the Main Post, North Fort Hood, and West Fort Hood) between 1942 and 1963. It also contains a historic context, 1942–1989, as well as photographs.

Weitze, Karen J. *Andrews Air Force Base, Camp Springs, Maryland: Inventory of Cold War Properties*. Plano, TX: Geo-Marine, Inc., 1996. Available in hard copy at the Air Combat Command (ACC) library, Langley Air Force Base, Virginia, and likely at Andrews AFB; not available online. The report was prepared as U.S. Air Force Air Mobility Command Cold War Series Report of Investigations Number 1. This series was completed as a single project, a combined command-wide inventory and context of real property surveys and evaluations conducted at selected installations in the United States

to identify potentially significant Cold War–related buildings and structures. The resources are primarily associated with the tactical and strategic network created between 1949 and 1962. Specific property types include radar enclaves, command and control facilities, readiness and alert complexes for tactical and strategic aircraft, missile housings and assembly-test units, and weapons areas. All were of less than fifty years of age when the report was prepared. A total of 28 buildings and structures were inventoried. A detailed timeline complements the narrative historic context.

———. *Aurora Pulsed Radiation Simulator HAER No. MD-144*, Plano, TX: Geo-Marine, Inc., 1996. This study contains an extended narrative and historic contexts for a U.S. Army pulsed radiation simulator of the late 1960s.

———. *Charleston Air Force Base, Charleston, South Carolina: Inventory of Cold War Properties*. Plano, TX: Geo-Marine, Inc., 1996. Available in hard copy at the Air Combat Command (ACC) library, Langley Air Force Base, Virginia, and likely at Charleston AFB; not available online. The report was prepared as U.S. Air Force Air Mobility Command Cold War Series Report of Investigations Number 2. This series was completed as a single project, a combined command-wide inventory and context of real property surveys and evaluations conducted at selected installations in the United States to identify potentially significant Cold War–related buildings and structures. The resources are primarily associated with the tactical and strategic network created between 1949 and 1962. Specific property types include radar enclaves, command and control facilities, readiness and alert complexes for tactical and strategic aircraft, missile housings and assembly-test units, and weapons areas. All were of less than fifty years of age when the report was prepared. A total of 70 buildings and structures were inventoried. A detailed timeline complements the narrative historic context.

———. *Dover Air Force Base, Dover, Delaware: Inventory of Cold War Properties*. Plano, TX: Geo-Marine, Inc., 1996. Available in hard copy at the Air Combat Command (ACC) library, Langley Air Force Base, Virginia, and likely at Dover AFB; not available online. The report was prepared as U.S. Air Force Air Mobility Command Cold War Series Report of Investigations Number 3. This series was completed as a single project, a combined command-wide inventory and context of real property surveys and evaluations conducted at selected installations in the United States to identify potentially significant Cold War–related buildings and structures. The resources are primarily associated with the tactical and strategic network created between 1949 and 1962. Specific property types include radar enclaves, command and control facilities, readiness and alert complexes for tactical and strategic aircraft, missile housings and assembly-test units, and weapons areas. All were of less than fifty years of age when the report was prepared. A total of 23 buildings and structures were inventoried. A detailed timeline complements the narrative historic context.

———. *Eglin Air Force Base, 1931-1991: Installation Buildup for Research, Test, Evaluation, and Training*. San Diego, CA: KEA, Inc., 2001. This study contains a detailed historic context for the installation, with a focus on the Cold War decades.

———————. *Grand Forks Air Force Base, Grand Forks, North Dakota: Inventory of Cold War Properties*. Plano, TX: Geo-Marine, Inc., 1996. Available in hard copy at the Air Combat Command (ACC) library, Langley Air Force Base, Virginia, and likely at Grand Forks AFB; not available online. The report was prepared as U.S. Air Force Air Mobility Command Cold War Series Report of Investigations Number 4. This series was completed as a single project, a combined command-wide inventory and context of real property surveys and evaluations conducted at selected installations in the United States to identify potentially significant Cold War–related buildings and structures. The resources are primarily associated with the tactical and strategic network created between 1949 and 1962. Specific property types include radar enclaves, command and control facilities, readiness and alert complexes for tactical and strategic aircraft, missile housings and assembly-test units, and weapons areas. All were of less than fifty years of age when the report was prepared. A total of 242 buildings and structures were inventoried. A detailed timeline complements the narrative historic context.

———————. *Guided Missile Testing in New Mexico: The Air Force at Holloman–White Sands, 1947–1970*. Plano, TX: Geo-Marine, Inc., 1997. Available as a PDF file at the Air Combat Command (ACC) library, Langley Air Force Base, Virginia; not available online. The study contains a Cold War–Era historic context for the base and the German scientific community, as well as a lengthy analysis of testing programs and property types. Numerous reports related to Holloman AFB are cited.

———————. *Historic Range Context: Air Armament Center, Eglin Air Force Base*, Plano, TX: Geo-Marine, Inc., June 2007. This study was published in two volumes: Vol. 1, *Narrative Overview and Appendix A: Radar and Instrumentation Sites, and Over-Water Test Areas, 1936/1939-1996*; Vol. 2, *Appendix B: Land Test Areas, 1936/1939-1996*. The publication documents the facilities across land and water test ranges associated with Eglin AFB, with many historic maps and photographs and focuses on the Cold War decades.

———————. *McChord Air Force Base, Tacoma, Washington: Inventory of Cold War Properties*. Plano, TX: Geo-Marine, Inc., 1996. Available in hard copy at the Air Combat Command (ACC) library, Langley Air Force Base, Virginia, and likely at McChord AFB; not available online. The report was prepared as U.S. Air Force Air Mobility Command Cold War Series Report of Investigations Number 5. This series was completed as a single project, a combined command-wide inventory and context of real property surveys and evaluations conducted at selected installations in the United States to identify potentially significant Cold War–related buildings and structures. The resources are primarily associated with the tactical and strategic network created between 1949 and 1962. Specific property types include radar enclaves, command and control facilities, readiness and alert complexes for tactical and strategic aircraft, missile housings and assembly-test units, and weapons areas. All were of less than fifty years of age when the report was prepared. A total of 29 buildings and structures were inventoried. A detailed timeline complements the narrative historic context.

———————. *PAVE PAWS Beale Air Force Base HAER No. CA-319*. San Diego, CA, and Plano, TX: KEA Environmental, Inc., and Geo-Marine, Inc., 2006. This study includes a full context of American and Russian large-phased array radars of the late Cold War.

———————. *Scott Air Force Base, Belleville, Illinois: Inventory of Cold War Properties*. Plano, TX: Geo-Marine, Inc., 1996. Available in hard copy at the Air Combat Command (ACC) library, Langley Air Force Base, Virginia, and likely at Scott AFB; not available online. The report was prepared as U.S. Air Force Air Mobility Command Cold War Series Report of Investigations Number 6. This series was completed as a single project, a combined command-wide inventory and context of real property surveys and evaluations conducted at selected installations in the United States to identify potentially significant Cold War–related buildings and structures. The resources are primarily associated with the tactical and strategic network created between 1949 and 1962. Specific property types include radar enclaves, command and control facilities, readiness and alert complexes for tactical and strategic aircraft, missile housings and assembly-test units, and weapons areas. All were of less than fifty years of age when the report was prepared. A total of 60 buildings and structures were inventoried. A detailed timeline complements the narrative historic context.

———————. *Travis Air Force Base, Fairfield, California: Inventory of Cold War Properties*. Plano, TX: Geo-Marine, Inc., 1996. Available in hard copy at the Air Combat Command (ACC) library, Langley Air Force Base, Virginia, and likely at Travis AFB; not available online. The report was prepared as U.S. Air Force Air Mobility Command Cold War Series Report of Investigations Number 7. This series was completed as a single project, a combined command-wide inventory and context of real property surveys and evaluations conducted at selected installations in the United States to identify potentially significant Cold War–related buildings and structures. The resources are primarily associated with the tactical and strategic network created between 1949 and 1962. Specific property types include radar enclaves, command and control facilities, readiness and alert complexes for tactical and strategic aircraft, missile housings and assembly-test units, and weapons areas. All were of less than fifty years of age when the report was prepared. A total of 50 buildings and structures were inventoried. A detailed timeline complements the narrative historic context.